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Crude Oil Price Increases Assured as Soon as Proration Enforcement Is Made Effective

By ANDREW M. ROWLEY

RUMORS of impending crude oil price increases are based, probably, on the belief efforts now being made by leaders of the petroleum industry to make proration enforcement more effective will be successful. There is no doubt prices will be raised if and when production in excess of allowables is stopped. A large part of this illegal production has been sold under posted prices, causing the posted prices to be reduced accordingly.

As long as there is a laxity in proration enforcement buyers are reluctant to increase crude oil prices because higher prices simply increase the incentive to produce properties in excess of allowables and sell that production under market prices. In other words the higher prices provide a greater margin for profit for those who over-produce their properties. Leaders of the industry, it is understood, feel prices should not be increased until there is ample assurance the practice of producing in excess of allowables has been stopped.

Even with the strong efforts now being made to strengthen enforcement, it may be 30 to 60 days before it is felt conditions warrant better prices or that the improved prices will not cause a recurrence of the overproduction trouble.

One thing should be kept in mind. The larger companies want better prices and will advance their schedules just as soon as they are convinced such action will not result in greater thefts of crude. They realize the present price structures for both crude oil and gasoline are ruinous and that improvement in the industry cannot come under the present price level. They have agreed to co-operate to the fullest extent in eliminating all practices tending to weaken proration and enforcement of state regulations.

The matter of higher prices has been placed squarely up to that small group of operators who have been producing in excess of allowables and to the state authorities in charge of proration enforcement. With demand for crude oil already showing a gain, strict enforcement of proration regulations would bring better prices and start the petroleum industry on the upward road so quickly as to surprise even the most optimistic.

The stage is all set for better times in the oil business. Basically sound and in the best statistical condition it has enjoyed since 1928, it is in a position to take advantage quickly of any improvement in the present situation.

Crude Oil Production in the United States

Estimated daily average production for the week ending February 11 and a comparison with previous week and one year ago, follows:

	Feb. 11	Feb. 4	Feb. 13, 1932
Oklahoma—			
Oklahoma City	87,455	88,735	81,200
Seminole-St. Louis	96,270	105,620	120,025
Remainder of State	190,490	193,125	203,125
Total Oklahoma	374,215	387,480	404,350
East Texas—			
Lathrop	114,710	113,815	114,945
Kilgore	92,095	90,850	103,509
Joiner	93,692	93,053	109,062
Total East Texas	300,497	297,718	327,516
West Texas	157,935	157,229	173,237
North Central Texas	67,661	70,645	72,355
Texas Panhandle	42,343	45,172	48,794
East Central Texas	57,954	56,005	50,310
Gulf Coast—Texas	131,839	131,261	105,244
Southwest Texas	52,385	54,110	59,561
Total State of Texas	812,614	812,140	837,017
Kansas	99,469	96,310	98,650
North Louisiana	30,415	29,975	28,725
Gulf Coast—Louisiana	32,243	33,548	28,295
Arkansas	31,450	31,500	33,535
Eastern Fields	109,000	109,000	118,000
Rocky Mountain area	75,301	76,187	81,869
California—			
Santa Fe Springs	54,000	53,750	66,500
Long Beach	67,500	67,000	76,750
Playa Del Rey	12,250	12,500	20,750
Elwood	12,250	14,000	17,000
Kettleman Hills	55,500	53,500	59,250
Remainder of State	260,500	254,250	259,750
Total California	462,000	455,000	500,000
Total United States	2,026,698	2,031,140	2,130,441

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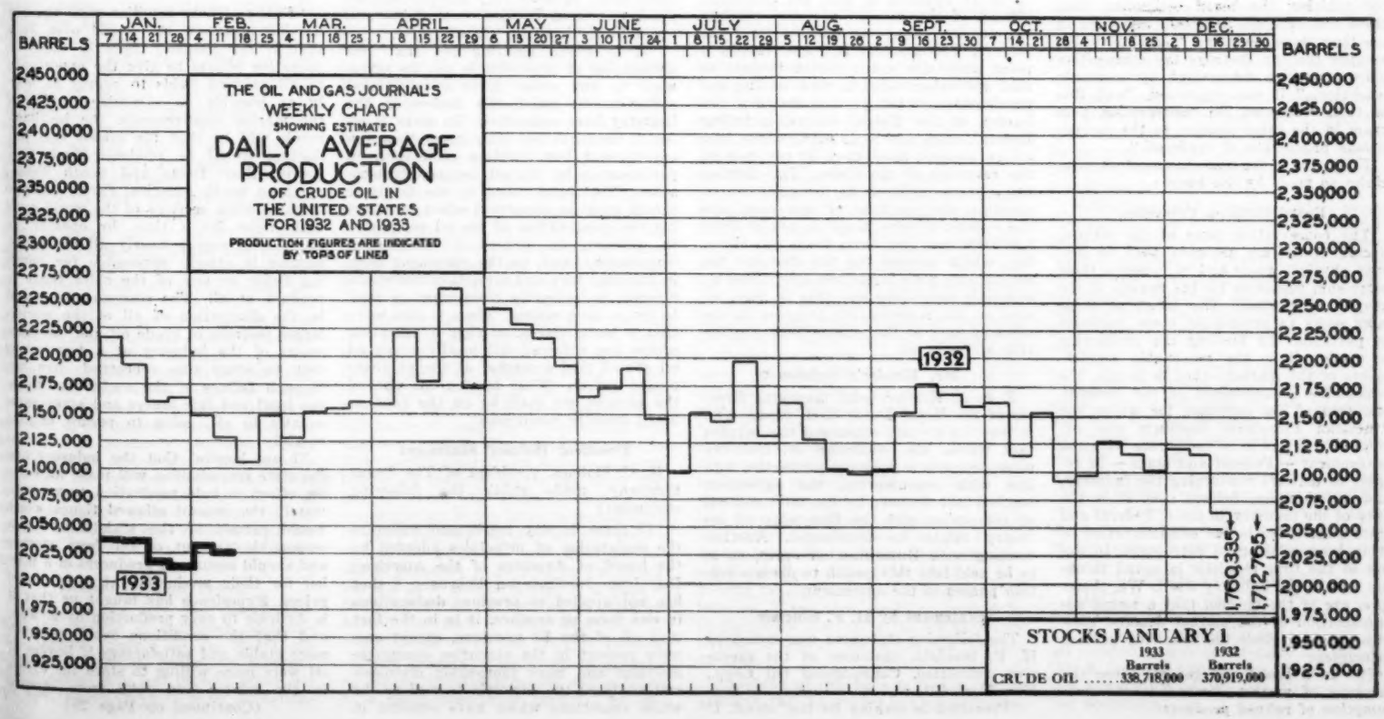

Directors of Institute Stand by Proration Policy and Urge Strict Compliance With the Law

NEW YORK, Feb. 13.—Sound general principles upon which the petroleum industry may base its co-operation in administration of the so-called "market demand" statutes of the oil-producing states were adopted by the board of directors of the American Petroleum Institute at a regular meeting here last week.

The principles held that consumption of refined products is the measure of market demand, and that current production should not exceed this demand. Production from new pools should be restricted to the utmost legal limit, since producing capacity already exceeds consuming requirements, and there is no public interest in developing new pools. Production of stripper wells should be restricted last, and production for each state prorated as between pools on a fair basis, it was recommended.

Success of such a program, the board declared, rests upon rigid enforcement of lawful orders of state commissions and every person engaged in the petroleum industry should not only assist commissions in enforcing such orders but avoid acts tending to circumvent or defeat them. It was said that if the states adequately enforce conservation laws, the effect should be the marketing of all oil produced at the competitive prices publicly posted.

The Board took cognizance of the international oil situation by stating: "The subject of domestic crude oil production is inseparably related to the production of other countries, and in order to apply these principles and make them effective in the United States it is necessary for similar principles to be applied to the production of crude oil in other exporting countries."

Gasoline taxation and tax evasion were held to be important factors, the board pointing out that this commodity is bearing 10 per cent of the nation's tax burden, and provides on the average more than 40 per cent of state revenues. Adverse effects of this excessive tax burden were cited as reduced consumption of gasoline, and curtailed purchases of new motor vehicles, the board estimating that there are at least 3,000,000 less cars in use than three years ago. "Gasoline which escapes the tax destroys the competitive price structure determined by economic conditions," it was explained, "and this in turn reacts on the conservation program in the same manner as the surreptitious production of crude oil."

Following is the announcement of principles as made by the board:

Board Outlines Principles

The conservation laws of the oil-producing states are designed both to prevent physical waste and to conserve their petroleum resources for the benefit of the people as a whole. The latest of these laws seeks to accomplish these purposes in particular by limiting the production of crude oil to the reasonable requirements of the market—that is to say, the reasonable requirements of the consumers. One of the purposes for which the American Petroleum Institute was organized was and is to co-operate with the government — Federal and state — in respect of matters concerning the industry, and we therefore believe that it is the duty of the industry to assist Federal and state authorities in the administration of their laws relating to petroleum. In doing so the first requisite is sound thinking within the industry itself. We, therefore, are of the opinion that a sound administration of the market demand statutes should include the following general principles:

(a) In a broad and general sense the measure of market demand is the consumption of refined products.

(b) Current production should not exceed this demand and should make some allowance for withdrawals from storage, which is now excessive.

(c) Producing capacity being already far in excess of consuming requirements, there is no public interest in developing new pools, and therefore production from new pools should be restricted to the utmost limit permitted by the laws of the states.

Should Protect Stripper Wells

(d) Both in the interest of conservation and the prevention of waste the production of stripper wells should be the last restricted.

(e) After allowing for the production of stripper wells and the utmost restriction of new pools, the intermediate existing flush pools should be so limited as to bring the total production in line with the total market requirements.

(f) The production for each state should be prorated as between pools on a fair basis, and the production of each pool should be prorated between the property of producers on a fair and equitable basis.

(g) In order for this program to succeed it is absolutely necessary that the lawful orders of the state commissions be rigidly enforced and every person engaged in the industry should assist the commissions in enforcing such orders, and should avoid any and all acts which would directly or indirectly circumvent or tend to defeat such orders.

(h) If the states adequately enforce their conservation laws, the effect should be the marketing of all oil produced at the competitive prices which from time to time are publicly posted.

(i) The subject of domestic crude oil production is inseparably related to the production of other countries, and in order to apply these principles and make them effective in the United States it is necessary for similar principles to be applied to the production of crude oil in other exporting countries.

Taxation and Tax Evasion

(j) In addition to this, the important subject of the gasoline tax and gasoline tax evasion cannot be omitted from the picture. The gasoline tax has reached a point where the motor vehicle because of this and other taxes is now paying approximately 10 per cent of the total tax burden of the United States, including Federal, state and local subdivisions, and on an average more than 40 per cent of the revenues of the states. This burden has already reduced the consumption of gasoline, the purchase of new cars, and the number of cars in use is now at least 3,000,000 less than three years ago. Gasoline which escapes the tax destroys the competitive price structure determined by economic conditions and this in turn reacts on the conservation program in the same manner as the surreptitious production of crude oil.

Mr. Kessler's Opinion

J. B. A. Kessler, joint managing director of the Royal Dutch-Shell group, who is here on a visit, expressed the opinion that unless the American oil industry made progress in bringing production into line with consumption, the agreement reached last summer by the international oil companies with the Rumanian oil industry might be terminated. Another meeting with Rumanian oil operators is to be held late this month to discuss certain phases of the agreement.

Statement by H. F. Sinclair

The following statement was issued by H. F. Sinclair, chairman of the executive committee, Consolidated Oil Corp., New York City:

"Proration is making its last stand. If the law cannot be enforced and development of new pools and overdrilling limited, we shall be compelled to look elsewhere for corrective measures. Meanwhile it is encouraging to find a large part of the industry, particularly the major companies, united in facing the facts of the situation and in advocating corrective and constructive measures.

"In effect, the declaration of principles put forth by the American Petroleum Institute is a statement of things that must be done if proration is to succeed in stabilizing the oil industry. It is also an admission that attempts so far made to bring about stabilization by proration have been ineffective. Limitation of current production to market demand, restriction of new pools, fair allocation of demand as between pools and producers in the same pool, preservation of stripper well production, restriction in countries exporting to the United States, gasoline taxation and tax evasion—all these are important factors.

"It must be understood, however, that the things the Institute declares should come to pass are all dependent upon enforcement and strict observance of the laws by all elements of the industry, large and small. Without this nothing can be accomplished. It is useless to talk about what should and can be done until this is brought about.

Restriction in New Pools

"I want to lay particular emphasis on that part of the Institute program which declares that production from new pools should be restricted to the utmost limit permitted by the laws of the states. Unlimited development of new production and proration cannot be carried out at the same time. Once permit a new pool to be developed and the task of controlling its output is hopeless.

"Last year under so-called proration, 2,474 more wells were drilled than in 1931. The increase in actually productive wells in 1932 was almost 60 per cent. If the attempt to control oil production is to continue and succeed in its objectives there must be some very definite restrictions put upon drilling new fields and overdrilling those we already have.

"It is worth pointing out that this declaration of principles is not an agreement in any sense. It is a conditional statement to which the leaders in the industry have subscribed. To make it effective requires not only more thorough enforcement but absolute good faith in performance by the oil companies themselves. The stand taken by the Institute should have an important effect in securing the co-operation of the oil companies in enforcing the orders of conservation commissions, and, as the statement says, in avoiding 'any and all acts which would directly or indirectly circumvent or tend to defeat such orders.' There is also more than a mere suggestion that if proration orders are enforced, all legally produced oil should find a market at the publicly-posted prices. With bootleg oil out of the picture, we shall be on the road to much sounder conditions."

President Holmes' Statement

R. C. Holmes, president of The Texas Company, made public the following statement:

"If there is any merit and value in the declaration of principles adopted by the board of directors of the American Petroleum Institute on February 8 that has not applied to previous declarations in one form or another, it is in the fact that all of the 13 members, except one, were present in the executive committee meetings and more thoroughly discussed and analyzed the domestic as well as the world conditions which have resulted in the unsatisfactory state of the industry, and that they and the members of the board who were present at the board meeting were unanimous in subscribing to and adopting these principles.

"There are, of course, a great many adverse conditions, including unsettled exchange, financial distress and other factors, but it seems to me if we get down to a few important conditions strictly within the industry itself which, if understood clearly and acted upon, would give some hope and promise of improvement.

"First: In spite of the very large potential production which has been developed in the last few years, United States production as reported by the Bureau of Mines and the American Petroleum Institute for the year 1932 is about 12½ per cent under the year 1928. The total world production as a whole, including the United States, Russia and all other producing countries, is about 2 per cent under 1928.

"Second: Our trouble today is not that allowable production in the United States is in excess of market demands, but that in the United States there has been, and is, production in excess of the allowable and in excess of the amounts reported to the Bureau of Mines and to the American Petroleum Institute; and that foreign production has not been sufficiently restricted.

"Third: It is estimated that at least 95 per cent of the producers in the United States are doing all in the way of restriction that is necessary to bring production within consumption requirements, and it remains for the small outstanding minority to be influenced or required to do its part.

"Fourth: It is conservatively estimated that the allowable production in the United States, taking into account imports and exports, is sufficiently low to avoid any excess over requirements during the year 1933 if proration were fully enforced.

World Situation

"Fifth: Those familiar with the production situation the world over know that if the industry fails in these co-operative efforts to give the opportunity to all existing fields to supply as nearly as possible an equitable portion of the market requirements, the inevitable result will be that the lowest cost production would be produced first. California, East Texas and South Texas; northern South America, Persia and two or three other sections of the world could each alone for a time, by opening up the valves, supply nearly all the world, making it utterly impossible for pumping fields or any of the older fields to produce at all. The consequences would be the dissipation of all of the world's larger reserves of crude oil and the other assets of the industry at a tremendous cost to every one concerned. Are we, through failure of the authorities to issue legal and fair orders and apply same equally to all, going to permit of this result?

"I am hopeful that the industry and the state commissions will make an earnest effort to hold production to approximately the present allowed figure which would permit of the withdrawal of a reasonable amount of oil from storage and should assure all producers of a market for their production at open posted prices. Experience has taught us that it is difficult to vary production by months, and that the conditions could be much more stable and satisfactory if buyers of oil were more willing to store the excess in the winter and take from storage

(Continued on Page 29)

Better Prices Dependent Upon Enforcement of Proration and Elimination of Tax Evasion

By ANDREW M. ROWLEY

A concerted effort is being made by leaders of the petroleum industry to procure an effective enforcement of proration orders and regulations in the different oil producing states, especially in the Mid-Continent area and the Texas Gulf Coast. Upon the success of this movement depends largely future support of this policy and whether it will be possible to more quickly bring the crude oil and gasoline price schedules back to a living and, eventually, a profitable, basis.

For nearly five years the industry has been committed to the policy of proration of crude oil production in the effort to more nearly balance supply and demand and prevent waste. It is admitted results have been obtained but, also, since the opening of the East Texas and Oklahoma City Pools and large production in these areas in excess of allowables set by state authorities, that the policy as a whole has not been much of a success.

Thefts of crude oil, or production in excess of allowables, together with evasion of gasoline taxes have resulted in a most unsatisfactory situation and one which threatens the entire price structure of both crude oil and refined products. Present low prices are due almost entirely to these factors.

Present Conditions Intolerable

Leaders of the industry realize present conditions no longer can be tolerated. Enforcement of proration must be made effective or the policy abandoned. A majority of the larger companies favor strict proration as a measure to stabilize conditions. But they realize they cannot continue to support this policy if their competitors do not co-operate.

Two factors are involved in the present movement. Better co-operation on the part of the petroleum industry and effective enforcement of proration rules and regulations on the part of state authorities. It is understood oil companies are agreed that practices involving the purchase of crude oil under the market price; transporting crude oil which has been produced in excess of allowables and sold under regularly posted prices; and handling or being involved in any way with the production, transportation or sale of so-called "hot" oil are taboo if effective enforcement of proration is to be secured. The better co-operation on the part of oil companies contemplates a rigid avoidance of any of the practices mentioned.

To procure more effective enforcement on the part of state authorities, the situation is being stated plainly to state officials in Oklahoma, Texas and Kansas who are charged with supervision over the production of oil and gas and the collection of gasoline taxes. They are being shown the great losses accruing to the states and to the oil industry through violation of proration regulations and the evasion of gasoline taxes. It is also being pointed out that these violations result in considerable quantities of crude oil and gasoline, at cut prices, entering into competition with products produced legally and bought at posted prices and gasoline on which the tax has been paid. Under such conditions the regularly posted prices must be reduced to the level of the cut prices. The producers, refiners and the states all lose as a result of these lower prices.

Reason for Low Prices

Because of the fact low prices minimize the returns of cut price operators and, thereby, reduce to an extent the practice of "selling under the market," oil companies who feel present prices are too low cannot increase their quotations until proration regulations are better enforced and gasoline tax evaders are punished. Higher prices simply provide a greater margin of operation for those producing crude oil in excess of allowables and those who sell gasoline under posted prices.

Leaders in the petroleum industry are more than willing to raise crude oil prices. Their efforts now to procure an effective enforcement of proration regulations is the first step towards bringing the price structures back to a level which will permit the producer and refiner to conduct his business without losing the vast sums now being recorded by so many companies. But production in excess of allowables must be stopped by the state authorities and gasoline tax evaders must be curbed before it will be possible to increase crude oil and gasoline prices.

In the present movement to strengthen proration the fact is being shown the oil industry should be enjoying fair prosperity. It has suffered less of a loss of business, in volume, than any other major industry. And it is in a better position to regain quickly its normal business, probably, than any other industry. Yet it is suffering from distress prices due almost entirely to illegal production of crude oil and evasion of gasoline taxes.

Oklahoma City "Potential"

In this connection the feeling is growing surprises are in store for those who have been viewing the "potential" of the Oklahoma City Field as "millions of barrels per day." One large company which has made a careful survey of conditions in that field is of the opinion the greatest quantity of crude oil which can still be expected by flowing in the Oklahoma City Field under present conditions is 25,000,000 bbls. At the present rate of withdrawal, if this is true, the Oklahoma City Field will be out of the flowing class in eight months. Tests made by engineers in the East Texas Field show conclusively that any unusual withdrawal of crude oil from that field immediately is reflected in a greater decline in bottom hole pressure.

The oil business at the present time may be said to be marking time. Basically sound and in good condition, it is prevented from enjoying the advantages of its muchly improved statistical position by reason of cut prices resulting from illegal production of crude oil, or production in excess of allowables and the evasion of the gasoline taxes. It is watching efforts now being made to eradicate these evils. Success of this movement will mean a quick return to better prices for all branches of the business.

A Challenge to the States

The present situation in reality is a challenge to state authorities. In Oklahoma and Texas the oil industry is the most important business in the state. It has been estimated that in Oklahoma 80 per cent of the people of that state are directly or indirectly dependent upon the oil business for business prosperity. That prosperity depends in a direct ratio on the elimination of stolen oil and tax evasion. The interests of the people in the question are so great it behooves the state to expend whatever time, effort and money is necessary to police the oil fields, refineries and filling stations to the end that production in excess of allowables be stopped and evasion of gasoline taxes eradicated. Higher prices in the oil industry will be obtained in direct proportion to the efforts put into enforcement of proration regulations and stopping gasoline tax evasion.

Tax Free Gasoline and Higher Levy on Crude Oil in Oklahoma and Texas Suggested

The following letter, deserving of careful consideration by everyone interested in the petroleum industry, was received from a subscriber of The Oil and Gas Journal:

"Every week The Oil and Gas Journal and other periodicals write with a great deal of emphasis that the only thing that has caused the breakdown of the oil price structure is overproduction through proration violations. This has always seemed to me to be the result of the actual cause, instead of the cause itself.

"I have been close enough to the situation in Texas to see these breaks coming on and almost invariably they have been caused by bootlegging and tax evasion. There are small skimming plants located all over Texas—about 40 being in East Texas alone. These plants in some instances are built for a few hundred dollars and if it were not for the 5-cent state and Federal tax they could not operate if the oil was given to them, when they recover only 12 to 14 gallons of gasoline from a barrel of crude and then sell the gasoline as low as 6½ cents a gallon, 'tax paid' (?). When enough of this gasoline has been delivered to stations within a radius of 150 or more miles from the source and every station of a legitimate oil company is surrounded with stations handling this cut-priced gasoline, these legitimate refiners have no alternative other than to reduce the price they pay for crude oil. Their investment and responsibility is too large to permit them to evade the tax, so they have to take it out of the producers' oil. This gasoline tax is supposed to be paid by the motorist, but as a matter of fact it is paid by the producer at the rate of 20 cents per barrel for each 1 cent that the tax evader holds down the price of gasoline.

"Tax evading is going on in probably all states, through blending and sneaking in a small amount of gasoline, but this only creates temporary local price wars that do not revert back on the producer. The real damage is at the source of crude, where vest pocket records are kept of the oil refined and the gasoline made, with little or no possibility of being caught, and when caught, only civil action taken by the courts to recover an estimated amount of tax evaded over the period of a month or two.

"It has long appeared to me that the state governments of Oklahoma and Texas have shown much stupidity in following the precedent set by the State of Oregon and New England states in the manner in which they thought was the only way in which to receive taxes from the oil business, with the result that, although Oklahoma and Texas are literally drowning in oil, the citizens of these two States are taxed the equivalent of $1 per barrel for each barrel of crude they use when converted into gasoline. Why are not the people of these two States entitled to use their natural resources practically tax free. This could be done by removing the gasoline tax entirely and substituting a 10-cent per barrel tax on crude. Oklahoma produces 150,000,000 bbls. of oil annually and Texas 320,000,000. A 10-cent tax would give both States more than they are now getting from the severance tax and gasoline tax. A tax on the crude would be much easier collected and when evaded could not break the gasoline price, as it would amount to less than one-half cent per gallon. With tax evasion made impossible by having no tax to evade, the crude price structure would increase from 6 to 10 times this 10-cent tax, which would itself be in the form of a tax that could be passed on to the public instead of the oil producers having to absorb the whole tax as they do now.

"As long as we have a 5-cent tax on gasoline, the tax evader has an advantage of from 70 cents to $1.50 per barrel of crude, depending on whether he recovers 14 or 30 gallons of gasoline when he refines same, and this advantage will always be used as a leverage against the price the legitimate refiner can pay for crude where the whole tax is paid. If oil was selling at $1.50 per barrel, these small skimming plants could not operate if they got oil at 75 cents per barrel, as their efficiency is too low, and it is doubtful that they will ever be able to obtain oil at less than one-half the posted price, so this change would put them out of the picture entirely, and it is mostly to them that overproduced and stolen oil is being sold. With them removed as a purchaser, effective handling of proration would not be so difficult.

"I hope you will give this matter more thought, as I am sure the more you think of it the more convinced you will become that, in addition to removing almost one-half of the total state taxes paid by the citizens of Oklahoma and Texas, it will also do more than anything else to correct what is really destroying the oil business.

"I might call your attention to the fact that Oklahoma and Texas use only about 50,000,000 bbls. of oil annually and ship out 415,000,000. The fact that we refuse to tax ourselves on the 50,000,000 we use would increase the amount others would have to pay for their gasoline not more than one-fifth cent per gallon, an amount so small that it is exceeded in daily price fluctuation of the tank car price of gasoline."

OUSTER TRIAL DATE

AUSTIN, Tex., Feb. 13.—Trial of Attorney General Allred's $14,850,000 penalty and ouster antitrust suit against 15 oil companies was set Monday for March 20. A hearing was set for March 13 on the application of Sinclair Refining Co. for severance.

Allred Protests Entertaining Hearsay Testimony Before the Texas Legislative Investigation

AUSTIN, Tex., Feb. 14.—Introduction of hearsay testimony during the oil, gas and mining committee's investigation of conservation enforcement in East Texas led to a warning from Atty. Gen. James V. Allred that the committee either conduct its hearing of hearsay evidence in executive session or to limit testimony according to court procedure.

"Many of the questions indicated that much oil in excess of the allowable is being run," Mr. Allred said, "and such information in the form of questions is hurtful to the industry and to the very people you would help. Information based on hearsay evidence has been and will be used by oil companies to affect the price of oil." He reminded Representative C. M. Turlington that in urging the adoption of his resolution authorizing the investigation, it was argued that such an inquisitorial body would have power to examine books and records of companies which hold injunctions against the commission and the attorney general, and in that way determine the amount of excess oil being run.

R. J. Boyle of San Antonio, attorney for the commission, answered a threat of the committee that it might make the sessions executive with the announcement that he would go to the floor of the house and fight for open meetings.

Need Experienced Men

The Railroad Commission needs more experienced men in the field to enforce proration, according to statements made to the legislative committee investigating enforcement of oil laws by R. L. Knight, an investigator for the commission in the East Texas Field.

The witness said that the commission needed more experienced oil men and more experienced investigators and "fewer real estate salesmen and grocery clerks." He said too many commission men were employed in the offices and not enough sent into the field to enforce orders.

He said most of the violators are the same ones which were violating when he first went into the field several months ago. Some have repeatedly disobeyed the commission's orders, he said, and continued to do so even after court injunctions had been obtained against them.

Knight said that he had gauged tanks belonging to the B. & W. Pipe Line after they had said commission agents could not do so. He said he usually gauged tanks when ordered to do so, but denied he had ever forced his way on properties by use of his "gun."

Knight said that the proration laws, in his opinion, should have more "teeth" and that proration was harder to enforce than prohibition. He said most of the employes of the commission were "scared to death"—afraid they would lose their jobs.

Knight said he believed the commission should get less injunctions against violators of proration rules and fine more of them instead.

"They are not afraid of injunctions; they simply change the name of their well and you have to catch them again," Knight stated.

Knight said that to obtain full enforcement 15 men would be needed in his district, whereas only four are there. It embraces 2,500 of the nearly 10,000 wells of the field.

Answering questions by Representative Sidney Latham of Longview, Mr. Knight stated that statements that the situation in East Texas is well in hand are erroneous.

"There has not been much change in four months," he stated. "The same old bunch that always has violated the orders still are violating them." He said unless the railroad commission "changed its tactics" the violations would continue.

Mr. Knight said he could not see what some of the employes of the commission in the field do "to earn their money." Pressed for the names of those he did not believe were earning their money, he named one man, a field investigator.

Replying to Representative Bob Long, chairman of the committee, Mr. Knight said some of the operators "now living up to proration" had threatened that if violations were not stopped "they, too would open up."

Lack of Meters

A. D. Brinkenhoff, in charge of crude oil meters, told the commission's efforts to have all pipe lines and loading racks equipped with meters. He testified that of 15 to 20 active loading racks only one was equipped with a meter. He said he had reported several. He said there probably were several pipe lines, connecting larger lines, that were operating without permits.

Refinery Supervision

W. J. Holloran, refinery supervisor, and J. A. Fenelon, checker of railroad tank cars at loading racks, revealed that only a few refineries and racks were equipped with meters and made reports in compliance with commission orders.

Mr. Holloran said there were 32 refineries and 11 reclaiming plants in the field and that a daily average of 22,000 bbls. of oil were consumed in them. He said he had reported 20 violators, but did not know whether anything had been done about it.

Questioned by Mr. Latham, he admitted that in instances where violators were asked to comply with commission orders they usually made "encouraging promises" to stave off the enforcers until they (the refineries) could obtain an injunction to restrain the commission from interfering.

"The only purpose of restraining orders is to keep us from finding out the source and supply of the oil."

He said he was inclined to believe that each refinery with a restraining order was using excess oil. He estimated, however, the excess was small in comparison with the total production, as the refineries were using only an average of 22,000 bbls. daily. He considered injunctions the greatest problem in proration enforcement.

He said only the Sinclair and East Texas refineries had been equipped with meters.

"I understand suits have been filed to make them put in meters and that some are buying them and others are making arrangements to," Mr. Holloran testified.

Loading Rack Checking

Mr. Fenelon said he had reported loading racks that did not have meters or were not making reports in compliance with commission orders to Homer Pierson, chief investigator in the field. He said he filed his first complaint last October, but there had not been any results because the racks still were not complying with commission rules.

He said there was not any way to find out where oil passing through the loading racks came from and that the racks can not provide information of excess oil. A large percentage of the oil moved through them was for coastwise and interstate shipment, over which the commission had no control after it had started.

J. L. Golay, another investigator, testified about compliances with rules concerning cleaning of tank bottoms.

One Day's Production

The production of 30,898 bbls. in excess of the 290,000 bbls. allowable on February 4 was revealed by Homer Pierson, chief of proration enforcement in the East Texas Field. Pierson, supplementing the testimony of W. J. Halloran, was seeking to show that the commission has a record of all oil moved.

According to the statement read by Pierson, the movement of oil February 4 was as follows: Actually checked through pipe lines, 271,771 bbls.; through tank cars, 26,242 bbls.; estimated pipe line runs, 30,000 bbls.; estimated run to refineries, 16,500 bbls.; total estimated and actually checked, 344,518 bbls. Storage runs were placed at 23,620 bbls., leaving a net production of 320,898 bbls., which was 30,898 bbls. in excess of the allowable of 290,000 bbls.

Pierson also said gauge tests showed meter readings to be discrepant by only eighty-four one-hundredths of 1 per cent. He said the excess was due to injunctions.

Unrest Growing

Luther Swift of Henderson, deputy supervisor of the oil and gas division of the commission, admitted that the situation was bad in the East Texas oil field, but he said state authorities were enforcing proration as well as possible under existing statutes.

"We've got to put the fear of God into the violators some way," Swift told the committee. He added that he had heard of several new violators within the past few weeks, persons who had never defied the laws before.

The witness admitted that unrest was growing in the area. He explained that a number of "chronic violators" continued to overproduce by virtue of court injunctions, and that the patience of some of the law-abiding people had become exhausted.

Swift stated that excess oil produced illegally was selling in the field for from 15 to 20 cents a barrel. The posted price in East Texas is 50 cents. He added that only a few months ago approximately 45,000 bbls. of this "hot oil" was being run daily.

Intentional proration violators number about 100, he estimated, while recently numerous operators who heretofore have obeyed proration orders have opened their wells. The cause, he said, was "just to get an investigation started, so they can get some action."

He suggested that the proration statutes should permit the closing of a violator's well until all offset wells have produced an amount equal of the oil run by the violator in excess of the proration allowable. Under the present law, he said, the attorney general's office has ruled that such a procedure cannot be followed.

Swift, who was in charge of proration enforcement from October, 1931, to October, 1932, estimated that at the time he turned his duties over to Homer Pierson between 60,000 and 100,000 bbls. of excess oil were being run daily. He declined to estimate the quantity at the present time.

Swift filed a list of approximately 200 violations he reported during the year he was in charge. He said he did not know

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Texas Railroad Commission Announces New East Texas Hearing February 23

AUSTIN, Tex., Feb. 13.—The Texas Railroad Commission has announced that on February 23 it would conduct on its own motion a board hearing on the condition of the East Texas oil field, inquiring into not only the physical condition of the field but into the quantity of excess oil being run and other violations of its orders.

It also gave notice to the oil, gas and mining committee of the House that it did not plan to bear the expense of that committee's inquiry into the administration of proration laws.

The hearing February 23 will be inclusive of virtually every problem confronting the commission with reference to proration laws, with the exception that it will not call for nominations for purchases, Chairman Lon A. Smith said. While the present order, which limits the field production to 290,000 bbls. daily and curtails well production to from 28 to 31 bbls., does not expire until April 1, Mr. Smith said that if the testimony shows a need for a new order, one will be promulgated.

All who have charged that excessive amounts of hot oil are being run from the field and who have registered other complaints will be given an opportunity to express their views, he said. In addition, the commission will inquire into the physical condition of the field.

Mr. Smith said that if it were conclusively proven that a large amount of excess oil is being run and is finding a market, he would favor an increase in the allowable to permit legal production, properly prorated among all wells, to the amount of the actual production. He expressed the belief that 290,000 bbls. is too low an allowable for the 120,000-acre field.

Announcement was also made that the oil and gas division of the railroad commission is at once starting a survey or analysis of all petroleum produced in Texas with a view of determining its gravity. This datum is needed in connection with the market demand clause of the new conservation law.

The purchasers of crude will indicate the gravity or class of oils needed for their refining and other purposes and the commission's survey will be a tabulation of that information as to fields and supply available. The commission can then base its proration amounts on the demand for the several classes of crude, and in that way extend some distance toward specific restriction and meet part of the criticism of the courts.

As this investigation is made the commission will make a survey of Texas crude oil reserves, as well as a summary of oil depletions in the State. When the last is finished the commission will have a scientific estimate of the amount of crude oil held underground in Texas, as well as the total of the millions of barrels which have been taken from the ground in the depleted fields.

Without proration fields were quickly depleted, it has been shown in the several observation hearings, and this will be fully developed in the surveys now starting. All work will be under the direction of W. F. Knode, chief petroleum engineer of the railroad commission.

Producer Relates How He Shipped 180,000 Bbls. of Oil and Paid $18,000 for "Protection"

By SPECIAL CORRESPONDENT

OKLAHOMA CITY, Okla., Feb. 14.—The Senate oil investigation committee was given more information as to how an oil company operating in the Oklahoma City Field was enabled to produce and ship crude oil openly contrary to the orders of the Oklahoma Corporation Commission. Mark Kleeden, manager of the McArthur Oil Co., admitted that after negotiating with the firm of Parker & Walker, and promising to pay them 10 cents a barrel for "protection," the McArthur Oil Co. produced and shipped 180,000 bbls. of oil. Kleeden said he paid Ray Walker $18,000 in all. The payments were made after each shipment. The oil went to Canadian refiners, Kleeden testified.

Robert Galbreath, Jr., son of the discoverer of the famous Glenn Pool in Oklahoma in 1905, who was a party to the production and transportation of the McArthur Oil Co.'s so-called "hot" oil, was the last important witness at last night's hearing of the committee. The main theme of his testimony was that the Oklahoma City Field, owned largely by independent oil operators, was subjected to discrimination in favor of the Seminole Pool, owned by the larger companies. He said Commissioner Walker favored the large companies, and he denounced the Murray way of administering the Oklahoma City Pool, asserting it was a "setup for the big boys." He denounced the heavy assessments against producers, saying, "If we gave Cicero $15,000 to let us run oil, and I'm not saying that we did, what is the difference in that and in the operators giving their money, through assessments, to see that oil isn't run?"

H. G. Marshall of the Marshall Oil Co. testified that he had turned down an offer of "protection" on a basis of 10 cents per barrel for all oil run. The offer, he said, came from an attache of Colonel Murray's field force.

Dictaphone Put Into Use

The sensation of the week was the introduction of an alleged dictaphone record of a conversation between Ray C. Walker, of the late "insurance" firm of Parker & Walker, and later Duncan & Walker; Mark Kleeden and Robert Galbreath, Jr., the latter two being connected with the McArthur Oil Co., owners of town lot wells in the Oklahoma City Field.

Walker was the man charged by his late partners with having engaged in the business of running illegally produced oil out of the Oklahoma City Field. His girl stenographers had sworn that they saw him hand money to Col. Cicero Murray, head of military operations in the Oklahoma City Field, and umpire in that field, once on the street and once in Walker's office.

Walker after much search was found in a warehouse in the Oklahoma City Field by the senate committee's sergeant-at-arms and brought before the committee. He admitted having run illegal oil out of the field, and boasted that he was the "master mind" in planning and carrying out the arrangements to find a market for the crude oil and to arrange for getting it to the buyer on a commission basis. He denied all talk of bribery, or of any money transaction with Col. Cicero Murray. When confronted with the dictaphone record and questioned, he lost his care-free manner, but entered a denial of his part in the alleged conversation caught by the dictaphone. Pinned down to a "yes" or "no" on the question of whether he did say any of the things set forth in the transcript of the alleged dictaphone record, he would no more than admit that "if I said that, I was either drunk or crazy."

U. S. Attorney Interested

The dictaphone had been installed by United States Attorney Herbert Hyde and was operated by an assistant who sat in a room in the Black Hotel adjoining the room in which Walker, Kleeden and Galbreath were gathered. The transcription made it appear that the men were discussing the Senate oil investigation and that Kleeden and Galbreath were anxious to learn what Walker was going to testify to. The transcript showed Kleeden asking: "How much did you pay Cicero? Did you pay Ray Wolfe anything? You are going to say no?" and Walker replying: "I am going to say that I was working for you and checking up for you and seeing if your wells were flowing. They are not going to know that I was out to the governor's mansion Thursday night. I talked to both Cicero and the governor. * * * They can't prove I ever gave Cicero a nickel. The thing to do now is to protect Cicero. We got to go in there and help him. Cicero would do anything in the world for us. They have been trying to bribe me to testify against Cicero. I won't do it. They don't want us, they want the governor. * * * The only thing we got to get worked out is that I was working for you and you never gave me any money to bribe anybody."

Then the transcription recorded Kleeden as having said: "I got to say that I gave you some kind of money."

Up to this point, according to the record transcribed, Walker and Kleeden had been alone in the room. Here Galbreath joined the party, the record says, and after a desultory conversation was recorded, either Kleeden or Galbreath is quoted as saying: "Don't testify that you said you gave the colonel some money. Did you ever give the colonel any money?" and Walker as replying, "I will say that I never gave him a damn cent." The record sets forth Kleeden as scolding Walker for being too loose-tongued and warning him to keep away from bootleggers and pleading with him to stay sober while the investigation is on. Walker is quoted as denying that he had said "Cicero had offered him $5,000 to keep his mouth shut."

Later in the transcript of the alleged conversation Walker is quoted as laying out his plan of procedure when he got upon the witness stand. Kleeden is quoted: "You will have to protect Cicero. There is no doubt about that," and Walker as replying: "When I get out there in court, I have never seen the man more than three times—three times at the mansion. They can't prove I have been in the governor's office more than twice. The governor has been very good to me since I came back. The governor is paying my expenses. There is plenty money to be made here outside the oil game here when this is over — on the roads. You could get interested in the road game, couldn't you?"

Kleeden Admits Conversation

Mark Kleeden testified before the committee yesterday. He said the dictaphone record as read at the hearing was a true reproduction of the conversation between himself and Ray Walker. Kleeden said he knew of the installation of the dictaphone in the room and that the U. S. District Attorney and others were in an adjoining room listening in. In his testimony Kleeden said he had a half-million-dollar investment in the Oklahoma City Field and that he was trying to protect himself. He charged that under the orders of the corporation commission his wells were not being given a fair deal. He said Galbreath had introduced him to A. W. Parker, who asked him for a donation of $250 to help defray the expenses of sending the girls' kiltie band to the Democratic National Convention at Chicago. He agreed to pay the donation, Kleeden testified, when Galbreath suggested that "it might be a good thing to help the administration." After the convention he met Walker, Kleeden testified, and Walker said he was a relative of Governor Murray and could be of great service to the McArthur Oil Co. Then, Kleeden said, Galbreath made the arrangement with Walker to run oil at the rate of 10 cents per barrel. Kleeden admitted when examined by Senator Dixon that Walker told him he would have to have some money for Col. Cicero Murray. The oil was run mostly through the lines of the Petroleum Pipe Line Co., with a small part of it going through the Cimarron Valley Pipe Line Co.'s line, and that it was shipped by rail to the Radio Oil Refineries, Ltd., and the Sterling Oil refinery, both in Canada. He participated in the shipment of 180,000 bbls. of crude, he testified, and that he paid Walker $18,000. Kleeden said soldiers directed a crew of Slick-Urschel employes in digging up the ground around the McArthur wells trying to find a hidden pipe line, but that nothing of the kind was found as the oil had all been run openly from the company's tanks. After two days, he said, he called Parker by telephone and ordered him to "get those fellows off or I'll scream to high heaven" and that the soldiers and the others left that afternoon. Kleeden said he had paid the gross production tax on the 18[illegible],000 bbls. run contrary to the corporation commission's orders. He admitted that he had only Walker's word for the latter's claim that he had to pay out money for protection and that he would not class Walker as a very reliable man.

Earlier Testimony

Ellis C. Duncan, partner of Walker in the alleged "hot" oil syndicate, testified last Wednesday that Judge J. O. Maberry of Sayre, Okla., brought together Phillip Flaxman, himself and Walker to discuss a deal involving a proposed attempt to bribe two members and the secretary of the corporation commission to break proration.

Judge Maberry denied Duncan allegations that Maberry was a party to the bribery plan, and called the plan a "wild idea" and a "pipe dream."

George A. Stephens testified he joined Duncan and Walker in the "blind" insurance office and they sought to sell insurance and bonds to state employes and political friends.

Colonel Murray, on the stand Wednesday, admitted he modified an order of the corporation commission in not permitting the Capitol Producing & Refining Co. to take 114,000 bbls. of underproduced oil from one of its wells after a "rather queer" order had been handed down. He did it to protect the gas energy of the field, as a whole, he said.

Records of Duncan and Walker were seized by the committee.

J. R. Van Slyke, attorney, told the committee how the Shell Petroleum settled a huge tax suit for a small amount, after the suit had been filed by Sid White, attorney appointed by the governor.

Shaw Estimates 1933 Crude Production in U. S. Will Be 722,000,000 Bbls..

By S. F. SHAW
Consulting Engineer

Estimate of the production of oil from flush and settled fields in the United States for the year 1933 is placed at 722,000,000 bbls., as compared with production of 785,000,000 bbls. in 1932 and 846,000,000 bbls. in 1931. The estimated production for 1933 from the various states is as follows:

(Figures in thousands of barrels)

State—	Flush	Settled	Total
Arkansas	.....	10,460	10,460
California	33,350	123,350	156,700
Colorado	.....	1,050	1,050
Eastern states	.....	34,320	34,320
Kansas	5,500	24,000	29,500
Louisiana	.. ..	19,150	19,150
Michigan	.....	6,000	6,000
Montana	.....	2,000	2,000
New Mexico	12,000	1,930	13,930
Oklahoma	45,500	90,160	135,660
Texas	185,720	115,795	301,515
Wyoming	.....	11,800	11,800
Total	282,070	440,015	722,085

The distinction that has been made in these estimates between flush and settled production is purely arbitrary. A guiding point has been that of including in the flush fields all those that have not produced at maximum capacity, and of which no positive knowledge is at hand that would determine what production could be made over a year's time, or even over a month's time, due either to curtailment that has existed from the opening of the field or to continued drilling that has taken place in conjunction with proration of production.

Estimates of Flush Fields

The fields that for this estimate have been considered as flush fields are as follows:

	Estimated, 1933	Produced, 1932
California:		
Elwood	4,450,000	5,441,000
Kettleman Hills	25,000,000	21,949,000
Playa del Rey	3,900,000	5,911,000
Total	33,350,000	33,301,000
Kansas:		
Ritz-Canton	3,500,000	4,902,000
Voshell	2,000,000	2,703,000
Total	5,500,000	7,605,000
New Mexico:		
Hobbs	12,000,000	10,191,000
Oklahoma:		
Chandler	800,000	1,412,000
Holdenville	1,000,000	1,145,000
Oklahoma City	40,000,000	33,398,000
Sholem Alechem	3,700,000	4,331,000
Total	45,500,000	40,286,000
Texas:		
Buckeye	1,500,000	108,000
Conroe	15,000,000	2,500,000
East Texas	120,000,000	121,944,000
High Island	1,220,000	1,511,000
Rabbs Ridge	7,500,000	4,223,000
Saxet	500,000	494,000
Van	18,000,000	17,361,000
Yates	22,000,000	23,234,000
Total	185,720,000	171,375,000

There is no doubt that some of these

(Continued on Page 29)

Industry Protests Against Proposed 3 Cents Per Bbl. Minimum Tax on Oklahoma Production

OKLAHOMA CITY, Okla., Feb. 11.—The Mid-Continent Oil and Gas Association, through its general secretary, Harry H. Smith, is making a determined fight against House Bill No. 248, the Murray administration's gross production tax bill which fixes the minimum tax on crude oil at 3 cents per barrel and makes all aboveground equipment subject to ad-valorem tax, in addition to the gross production tax.

The State of Oklahoma has for years had a gross production tax which exacts from the producer 3 per cent of his gross income from the production of oil. The new bill retains the 3 per cent gross production tax but adds that the minimum tax shall not be less than 3 cents per barrel.

The bill also provides for a 3 per cent tax on the gross value of all the natural gas and casinghead gas produced, but fixes a minimum tax of one-half cent per 1,000 cubic feet of such gas produced.

In opposing the bill, Secretary Smith and Clarel B. Mapes, assistant secretary and statistician for the Mid-Continent Oil and Gas Association, prepared a brief and 15 exhibits to show the injustice of the proposed law. They showed by the exhibits that the average oil producer pays a tax equivalent to 30 mills upon 70 per cent to 100 per cent of the fair cash value of his property, including equipment and all appurtenances, whereas the owner of permanent types of property, located outside of cities and towns, pays an average of not more than 30 mills upon an assessed value ranging not higher than 50 per cent of the fair cash value of his property.

Thus the oil producer is not only paying his fair share of taxes, they claimed, but is paying more than his fair share under the present laws.

The exhibits further show that through the payment of rentals, the oil industry, as an operating expense, is annually paying the entire taxes of more than 40 per cent of the farmers in the State, and, in addition, is each year placing in the hands of landowners in the form of bonuses, cash equivalent to more than twice the amount of all farm taxes paid each year.

ANALYSIS SHOWING COMPARISON OF RENTALS PAID ON NONPRODUCTIVE OIL AND GAS LEASES WITH TAXES PAID ON FARMS

		Year 1930	5-yr. average 1927—1931
1.	Number of leases in force in state*	87,660	73,539
2.	Number of acres under lease for oil and gas*	9,082,850	7,576,018
3.	Average number of acres per lease	103.61	103.02
4.	Total amount of rental paid in state*	$7,744,276.00	$6,765,364.00
5.	Average rental paid per lease	$88.34	$92.00
6.	Average rental paid per acre	$0.85	$0.89
	Farm Data†—		
7.	Number of farms in state, 1930	203,866	
8.	Number of acres in farms in state, 1930	33,796,817	
9.	Average number of acres per farm	165.75	
10.	Total amount of taxes paid on farms	$17,532,000.00	
11.	Average amount of taxes paid per farm	$86.19	
12.	Average amount of taxes paid per acre	$0.52	
	Comparisons—		
13.	Per cent of farms leased for oil and gas‡	43.00%	
14.	Per cent of total farm acreage leased	26.88%	
15.	Ratio of size of average lease to size of average farm	62.51%	
16.	Ratio of total renatls paid to total farm taxes paid	44.17%	
17.	Ratio of average rental paid per lease to average tax paid per farm	102.49%	
18.	Ratio of average rental paid per acre to average tax paid per acre	163.46%	
	Miscellaneous data—		
19.	State population, 1930	2,396,040	
20.	Rural (farm) population, 1930	1,021,074	
21.	Ratio of farm population to total population	42.62%	
22.	Average number of people per farm	5.01	
23.	Number of people resident on nonproductive oil and gas leases	439,177	
24.	Per cent of total rural (farm) taxpayers on nonproductive leases	43.00%	
25.	Per cent of total state population on nonproductive leases	18.33%	

*From survey by Mid-Continent Oil and Gas Association. †All farm data derived from U. S. Bureau of Census Reports. ‡Estimated that each oil and gas lease covers a single farm.

Costs of Producing Oil

Exhibit No. 1 is a detailed and exhaustive survey and analysis of the costs of producing crude oil in Oklahoma for the years 1930 and 1931. The results of the survey indicate that the oil-producing industry of this State has operated and is now operating at a terrific loss. In 1930, the survey indicates, the cost of production per barrel averaged $1.29 before interest and other capital charges were added and that after including such capital charges the net total cost per barrel averaged $1.41. In that year an average of $1.28 was received for every barrel of oil produced. Thus, according to the survey, the industry averaged a loss for the entire State of 13 cents per barrel after including capital charges or a total loss of $25,458,754. This condition was prevalent in a year which may be considered relatively normal. In 1931, the average cost of producing a barrel of oil in Oklahoma fell to $1.30, including capital charges, but the revenue fell to 63 cents per barrel, a decrease of over 50 per cent from the revenue of the year before and the producing industry lost an average of 48 cents per barrel on every barrel produced in the State, or a total loss of $101,595,286, after including capital and interest charges, and or $75,224,752 before including interest and other capital charges.

Secretary Smith, in presenting the above facts to the House committee to which the bill was referred, said it can readily be seen that this condition cannot continue without the direst consequence to the oil producing industry and the entire State's economic structure.

Production Decline

Exhibit 2 was a chart showing a typical curve of decline in oil well production based on Bartlesville sand wells in the Cushing Field in Creek County, Oklahoma, made by James O. Lewis, petroleum engineer, from data from the oil and gas manual of the U. S. Bureau of Internal Revenue. This curve showed a production the first year of 100,000 bbls.; second year, 31,000 bbls.; third year, 12,500 bbls.; fourth year, 6,000 bbls.; fifth year, 3,300 bbls.; sixth year, 1,900 bbls.; seventh year, 1,200 bbls.; eighth year, 800 bbls.; ninth year, 550 bbls.; tenth year, 380 bbls., a total of 157,630 bbls. out of an ultimate production of 158,730 bbls.

Thus there are three major factors, inherent in the physical operation of an oil property, that affect the value of an oil well, namely: That, as an almost invariable rule, a well's rate of production declines rapidly from the time soon after it is placed on production until the time its production is exhausted; that, as the production declines, the operating expense per barrel produced increases

ANALYSIS OF THE COST OF PRODUCTION OF CRUDE OIL AND REVENUE RECEIVED SHOWING THE PROFIT AND LOSS OF THE OIL PRODUCING BUSINESS IN OKLAHOMA YEARS 1930 AND 1931

		Cost of production per bbl. 1930	Cost of production per bbl. 1931	Cost of production, total state* 1930	Cost of production, total state* 1931
1.	Operating expenses	$0.26	$0.18	$48,549,692.00	$28,866,965.00
2.	General office and administrative expense	0.14	0.12	26,386,937.00	18,991,840.00
3.	General development and exploration expense (not including drilling)	0.11	0.10	20,363,214.00	15,247,193.00
4.	Miscellaneous debits and credits (net)	0.01	0.01	947,126.00	853,211.00
5.	Depreciation on lease and production equipment	0.21	0.19	40,859,026.00	30,446,985.00
6.	Depletion (on cost basis) (includes drilling and intangible development costs)	0.40	0.24	76,508,858.00	37,888,380.00
7.	Amortization of or cancellation of nonproductive leaseholds	0.14	0.26	27,012,041.00	41,238,522.00
8.	Abandonment expense (producing properties)	0.02	0.02	3,409,655.00	3,792,043.00
9.	Dry hole expense	0.06	0.03	11,024,550.00	4,819,061.00
10.	Total production expense	$1.35	$1.15	$255,061,099.00	$182,144,705.00
11.	(Less) revenue from casinghead gas produced	0.06	0.02	10,380,504.00	3,634,046.00
12.	Net total production expense	$1.29	$1.13	$244,680,595.00	$178,510,659.00
13.	Interest and other capital charges	0.12	0.17	23,545,559.00	26,370,534.00
14.	Net total cost (including interest)	$1.41	$1.30	$268,226,154.00	$204,881,193.00
15.	Revenue from oil produced	$1.28	$0.65	$242,767,400.00	$103,285,907.00
16.	Profit or loss: A. Before interest charges	†$0.01	†$0.48	†$ 1,913,195.00	†$ 75,224,752.00
	B. After interest charges	†$0.13	†$0.65	†$25,458,754.00	†$101,595,286.00

Notes.—*Excluding royalty oil, which is produced free of cost to the royalty owner. †Indicates loss.

	Barrels produced 1930	Barrels produced 1931	Change—1931 over 1930 Barrels	Change—1931 over 1930 Per cent
Working interest oil	189,425,250	158,002,250	—31,423,000	—16.59
Royalty oil	27,060,750	22,571,750	— 4,489,000	—16.59
Total production of state	216,486,000	180,574,000	—35,912,000	—16.59

ANALYSIS OF TYPICAL LEASE WITH WELLS OF AVERAGE FLUSH PRODUCTION SHOWING RATIO OF GROSS INCOME TO APPRAISAL VALUE OF PROPERTY AND COMPARISON OF GROSS PRODUCTION TAX PAYABLE WITH PROBABLE AD VALOREM TAX PAYABLE IF PROPERTIES WERE TAXED UNDER AD VALOREM SYSTEM

(Compiled by Mid-Continent Oil and Gas Association)

Year—	Net production barrels	Daily average production per well barrels	Gross income value of oil produced	Appraised analytical value of property	Ratio of value of oil to true appraised value of property	Probable assessed value of property if assessed under ad valorem system at 50% of true value	Probable tax revenue from oil property if taxed under ad valorem system at 20 mills	Gross production tax payable at 3% rate	Ratio of probable ad valorem tax to actual gross production tax
1918	2,102,807	112.03	$4,521,051.05	$4,039,572.32	97.66%	$2,314,786.16	$69,443.58	$136,631.52	51.20%
1919	630,799	30.32	1,468,696.40	1,968,513.82	74.61%	984,256.91	29,527.71	44,060.59	67.02%
1920	401,017	17.96	1,373,943.00	1,186,816.69	115.77%	593,408.35	17,802.25	41,218.29	43.19%
1921	348,421	11.18	410,640.11	395,193.05	103.91%	197,596.52	5,927.90	12,319.20	48.12%
1922	169,181	7.89	285,736.77	254,099.34	112.45%	127,049.67	3,811.49	8,572.10	44.46%
1923	151,113	7.39	220,074.11	191,883.64	114.69%	95,941.82	2,878.24	6,602.22	43.60%
1924	133,946	6.89	195,867.76	164,294.32	119.27%	82,112.16	2,463.36	5,876.03	41.92%
1925	113,272	5.89	191,665.66	154,802.30	123.81%	77,401.15	2,322.03	5,749.97	40.38%
1926	106,201	6.00	207,626.93	133,641.80	155.36%	66,820.90	2,004.63	6,228.81	32.18%
1927	85,474	5.20	114,235.76	61,802.95	185.03%	30,901.48	927.04	3,431.57	27.02%
1928	75,616	5.11	97,523.24	64,646.21	150.86%	32,323.10	969.69	2,925.70	33.14%
Total 11 years	4,318,855	19.53	$9,087,210.90	$9,205,195.44	98.72%	$4,602,597.72	$138,077.93	$272,616.21	50.65%

until such expense ultimately equals and exceeds the gross income per barrel; and that, in these days of deeper drilling with the attendant greater cost and investment per well, a majority of the producing wells drilled will not pay out the investment plus operating expenses.

The chart further serves to compare an oil property with other and more permanent kinds of property and to illustrate the fact that an oil well declines in value with age, finally reaching a point where cost of operation per barrel of oil produced will exceed the sale value of the oil, thus necessitating abandonment. From the inception of production of an oil property, its operation is a process of liquidation of the capital asset involved. Each barrel of oil produced lessens the deposit, and at the end of some 8 to 15 years, the deposit is exhausted and the oil property is no more. This is in contrast with more permanent forms of property such as, for instance, farm land which, in addition to yielding an annual income, may actually be worth more at the end of a period corresponding to the life of an oil well, than it was at the beginning.

Big Investment in Wildcat Acreage

Surveys of the oil producing industry in Oklahoma, by the Mid-Continent Oil and Gas Association, indicate that, for the year 1930, the oil industry paid rental on nonproductive oil and gas leases at the rate of 85 cents per acre on 87,660 leases in force in the State. Since it is the usual rule that a lease is taken on the entire property of a farmer, then it can be assumed that 87,660 farms in the State, or 43 per cent of the total farms, were under lease for oil and gas purposes in 1930. A total of 9,082,850 acres, or 26.88 per cent of the total farm acreage was leased. Thus it may be concluded that all of the taxes on approximately 27 per cent of the farm acreage, or 43 per cent of the farms, were defrayed by the oil industry in the form of rentals, and the farmer still had 33 cents per acre left for the defraying of other expenses. Comparing the total rentals paid to the total farm taxes paid, it is ascertained that such rentals were sufficient to pay 44.17 per cent of the total farm taxes that were paid in the State during this year. It may be further ascertained that the rentals thus paid defrayed the total contributions to the cost of government (taxes) of 18.33 per cent of the total State population.

Oil Industry Pays Farmer's Taxes

Lease bonuses paid by the oil industry averaged $23.18 per acre in 1930 and for the five-year period, 1927 to 1931, averaged $19.03 per acre. This average figure, if distributed over the five-year period (term of average lease) would be equivalent to a bonus of $3.82 per acre per year. This figure may be applied to the number of leases in force in the State in 1930 and, by an analysis similar to that made in the case of rentals paid, it may be estimated that $3.82 per acre was paid annually to the owners of 43 per cent of the farms (26.88 per cent of the total farm acreage) of the State. It is further ascertained that the total amount of bonuses paid (on this accruable basis) was almost twice as great (197.90 per cent) as the total farm taxes paid during the year 1930; that the average total bonus paid to the farmer annually was over 4½ times as great as his tax bill; and, further, for every acre of farm land under oil and gas lease in 1930, the payment (on a distributed basis) of bonuses was alone more than seven times as great as the total taxes due upon the land.

Combining both rentals and bonuses, it is shown that 43 per cent of the farm taxpayers had their lands leased for oil and gas purposes in 1930, and annually received an average of $4.67 per acre from the oil industry. Their taxes on this same property averaged only 52 cents per acre. Thus, for each acre of land so leased, the rental and accruable bonus paid per acre per year was, in 1930, approximately nine times the amount of taxes the farmer paid per acre and was almost six times the amount of taxes the farmer paid upon his farm. The rentals and bonuses (distributed basis) paid by the oil industry to the farmers in 1930 totaled approximately 2½ times the total of all farm taxes paid in the State that year.

ANALYSIS SHOWING COMPARISON OF BONUSES PAID ON NONPRODUCTIVE OIL AND GAS LEASES WITH TAXES PAID ON FARMS

		Year 1930	5-yr. average 1927—1931
1.	Number of leases taken during year*	29,153	21,087
2.	Total acreage of all leases taken*	3,875,116	2,348,679
3.	Average number of acres per lease	132.92	111.38
4.	Total amount of bonuses paid*	$89,836,941.00	$44,685,425.00
5.	Average bonus paid per lease taken	$3,081.57	$2,119.10
6.	Average bonus paid per acre	$23.18	$19.03
	Lease bonus distributed over 5-year lease period:		
7.	Total amount of bonuses paid per year	$17,967,388.20	$8,937,085.00
8.	Average bonus paid per lease per year	$616.31	$423.82
9.	Average bonus paid per acre per year	$4.64	$3.82
	Bonus data applied to leases in force:		
10.	Number of leases in force in state*	87,660	
11.	Number of acres under lease*	9,082,850	
12.	Average number of acres per lease	103.61	
13.	Total amount of bonuses accruable per year	$34,696,487.00	
14.	Average bonus accruable per lease per year	$395.81	
15.	Average bonus accruable per acre per year	$3.82	
	Farm data†:		
16.	Number of farms in state	203,866	
17.	Number of acres in farms in state	33,790,817	
18.	Average number of acres per farm	165.75	
19.	Total amount of taxes paid on farms	$17,532,000.00	
20.	Average amount of taxes paid per farm	$86.19	
21.	Average amount of taxes paid per acre	$0.52	
	Comparisons:		
22.	Per cent of farms leased for oil and gas‡	43.00%	
23.	Per cent of total farm acreage leased	26.88%	
24.	Ratio of size of average lease to size of average farm	62.51%	
25.	Ratio of total bonuses paid to total farm taxes paid	197.90%	
26.	Ratio of average bonus paid per lease to average tax paid per farm	459.23%	
27.	Ratio of average bonus paid per acre to average tax paid per acre	734.62%	
	Miscellaneous data:		
28.	State population, 1930	2,396,040	
29.	Rural (farm) population, 1930	1,021,074	
30.	Ratio of farm population to total population	42.62%	
31.	Average number of people per farm	5.01	
32.	Number of people resident on nonproductive oil and gas leases	439,177	
33.	Per cent of total rural taxpayers on nonproductive leases	43.00%	
34.	Per cent of total state population on nonproductive leases	18.33%	

*From survey by Mid-Continent Oil and Gas Association. †All farm data derived from U. S. Bureau of Census Reports. ‡Estimated that each oil and gas lease covers a single farm.

Oklahoma's High Taxes

Using a typical profitable oil lease, a comparison of the tax methods on oil properties, as used in Oklahoma, Kansas, California and Wyoming, demonstrates that the owner of Oklahoma oil property pays by far the highest tax per dollar of value, and that in the State of California, which has one of the most equitable mineral tax systems known, an owner of such an oil property pays only 42 per cent of the tax that he would pay if operating the same property in the State of Oklahoma. In the neighboring State of Kansas, whose oil resources have only been touched, the average oil producer is paying only a little better than 65 per cent of the taxes that he would pay if operating in Oklahoma.

Welding of Vessels Containing Explosive Gases Made Safe by Carbon Dioxide

By L. G. E. BIGNELL
Petroleum Engineering Editor

Ever since acetylene and electric welding have been used in the various departments of the petroleum industry there have been explosions caused by heating hydrocarbon gases in the vessel being welded. A new use for carbon dioxide will largely eliminate this hazard and a recent test made at the plant of the Carbonic Products Co., Tulsa, demonstrated some of the benefits to be derived from the application of this process.

Carbon dioxide is manufactured in the liquid and solid form and as it vaporizes it becomes a heavy gas with a specific gravity of about 1.52 and therefore is heavier than hydrocarbon gases or air. It is this property of carbon dioxide that makes it applicable to this process because it is a noninflammable gas and if mixed with hydrocarbon gases in the proportion of 20 per cent will create a nonexplosive mixture. For safety sake it is the usual practice to use about 40 per cent carbon dioxide in mixtures in vessels to be welded.

The test made recently at the plant of the Carbonic Products Co., Tulsa, was conducted jointly by that company, the Air Reduction Sales Co. and the C. C. Forrester Welding Co., all of Tulsa. It consisted of charging a compartment in a gasoline truck tank with carbon dioxide from a liquid carbon dioxide cylinder until the gas mixture would not ignite at the opening on top of the tank and then proceeding to weld the patches in the usual way using both acetylene and electric apparatus. The test demonstrated the safety of the process.

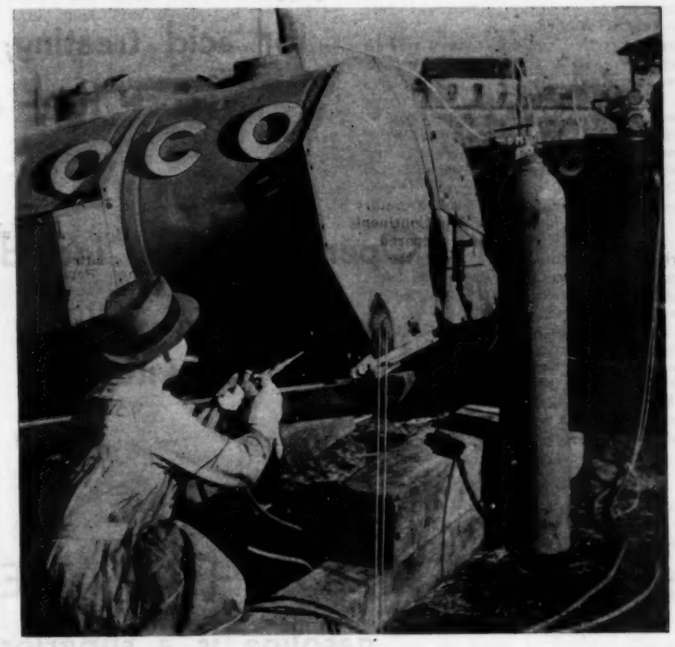
In addition to this work H. R. Campbell, superintendent of the Carbonic Products Co.'s plant, has made numerous other tests to determine methods of using CO_2 to dilute gas in vessels to be welded. He has taken a drum containing about 2 gallons of natural casinghead gasoline and mixed with it 40 per cent carbon dioxide gas and then burned a hole through the walls of the drum without an explosion occurring.

Where there is need for welding leaky gate valves on pipe lines it is possible to tap the line and admit carbon dioxide gas and produce an inert mixture in the valve so that welding can be done safely. Similar methods can be applied to other vessels to be welded along the pipe lines, in the refinery and in the field.

The value of this method will be found in applying it to apparatus to be welded that would otherwise have to be moved from its position at a considerable cost and in some instances would involve the closing down of other units to permit the movement of the part to be welded.

Liquid carbon dioxide is delivered in cylinders containing about 30 pounds of gas each which will vaporize to 425 cubic feet of gas at atmospheric pressure.

To test the percentage of carbon dioxide gas and hydrocarbon gases in a mixture a Hayes analyzer is used the same as in a test for the presence of oxygen in a gas.



Welding a patch on gasoline tank truck in which carbon dioxide has been charged. The cylinder shown in picture contains liquid carbon dioxide

CROSS SECTION OF KANSAS

The Kansas Geological Society, 412 Union National Bank Building, Wichita, Kans., has prepared a geological cross section of western Missouri and most of the State of Kansas from east to west that shows the general features of this area as worked out from data on about 5,000 wells. In the cross section the details of 138 wells are shown which include logs of wells in the shallow fields of west Osceola, Mo., in western Missouri, the Bartlesville production of eastern Kansas and on west through Ritz-Canton-Galva Fields. The section then turns northward to the Voshell high in McPherson County, and then westward taking in Ellsworth, Rice and Russell Counties. This drawing was prepared by Miss Betty Kellett, of the Wichita staff of the Amerada Petroleum Corp., with the assistance of many geologists of the Mid-Continent region and represents the accepted opinions of the geological fraternity of this region. A limited number of copies of this section may be obtained from the society's offices at the above address at $5 per copy.

WALTER L. TYLER DEAD

Walter L. Tyler, independent operator of Fort Worth, Tex., died at Tyler on February 12 of burns caused by a gas stove.

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Kansas Strengthens Refinery Position With New Plants and Several Improvement Programs

By C. O. WILLSON

Kansas, which attracted considerable attention in producing circles over the past year due to the discovery of new fields, can lay claim also to being the most active area in the Mid-Continent and probably the entire country in the construction of new refineries and the modernization of old plants.

With one new refinery in operation and a second scheduled to be on stream before the end of the month, Kansas takes first rank for the year in the construction of new plants designed for permanent operation. In the modernization programs one large refinery is being almost completely rebuilt and the improvements at two other refineries involve large additions to cracking facilities with important replacements in other phases of plant operation. Improvements have been made at a number of other plants during the year and one old plant which has been shut down for several years is now operating. It is known that other companies have plans to add to their present capacities or replace old equipment with new.

As a result of these expansion programs Kansas will have a much more important position in petroleum refining and marketing in 1933 than any previous period in its history. It is probable that by early spring the total crude oil runs to stills at refineries will be in excess of 100,000 bbls. daily with plant equipment to secure exceptionally high yields of gasoline. The output of the new and rebuilt plants will be better than average in quality. Refining in Kansas in the past has been largely restricted to serving local requirements but with the additional capacity, the State's importance in interstate markets will be greatly increased.

The growth in Kansas refining can be explained as being due both to the increased supplies of crude oil and the generally favorable position of the State in regard to outlets for refinery products. Kansas refiners have always occupied a strong position in Mid-Continent refinery operations as indicated by the fact that there has not been an important plant shut down of a permanent nature in many years. Limited crude oil production readily available tended to limit expansions for several years but discoveries of new pools over the past 18 months has removed this restriction with the possibility that even greater supplies will be available before the end of the year.

Comparative Freight Rates

In the marketing end, Kansas' position in regard to the consuming areas continues to be better than practically any of the refining groups which constitute the Mid-Continent refining area. This proximity to consumer outlets is now more important than it has ever been in the past due to the low prices for refinery products. In the postwar days from 1919 through 1928 when Mid-Continent gasoline at the refineries brought from 6 cents to as high as 24 cents per gallon the freight rate advantage of Kansas refineries over other Mid-Continent refining groups amounting in most cases to a fraction of a cent per gallon, was relatively unimportant and this situation partially accounts for the fact that expansion in refinery construction was much greater in Oklahoma and North and Central Texas. Refiners at that time could easily absorb the freight rate disadvantage when necessary in competing with Kansas refiners and their profits were not materially reduced. Now with all the principal products of refineries except lubricants selling under 3 cents a gallon, the refiner who can save even one-eighth cent per gallon in transportation costs has an important advantage assuming that his other costs are on a parity with those of his competitors.

This freight rate advantage of Kansas refiners of course does not apply to all of the consuming territory to the north where a large part of the surplus of refinery products in the Mid-Continent is absorbed. In shipments through St. Louis, east of the Mississippi River, including Chicago, the freight rate on refined oils from the central group of Kansas refineries is the same as Oklahoma, both states having the classification of Group 3 except for Kansas City, Kans., in shipments to that territory. As generally known by the refining and marketing trade this Group 3 price on gasoline and several other products is generally accepted as the base quotation for the Mid-Continent and Middle West in the daily and weekly published reports.

The actual volume of Kansas gasoline moving into this territory east of the Mississippi River on a Group 3 basis is small for the reason that in shipments west of the river the Kansas refiners have lower rail rates to practically all of the principal consuming centers due to the shorter hauls. A majority of the refineries are located in the south and central part of the State and except for local hauls these plants are grouped in one classification. In the eastern part of the State there are two large refineries located in Kansas City, Kans., which are grouped with two plants in Kansas City, Mo., in rate structures.

In shipments to Des Moines, Iowa, and Omaha, Neb., the rail rate on gasoline and kerosene from Kansas refineries (central group) is 3½ cents per 100 pounds (.231 cent per gallon) less than the Oklahoma rate. The rate from the Kansas City group of refineries is 9 cents per 100 pounds (.594 cent per gallon) less than the Oklahoma rate. In shipments to Minneapolis, Minn., the Kansas rate is 2 cents per 100 pounds under the Oklahoma rate and the Kansas City rate is 7 cents per 100 pounds less. As an example of the actual rates in effect, the rail rate on gasoline from Oklahoma to Des Moines is 2.244 cents per gallon and from Kansas City 1.65 cents per gallon, a saving of .594 cent per gallon in the net back to the refineries located in Kansas City. The rate on fuel oil and gas oil to this point from Oklahoma is 85 47 cents per barrel and from Kansas City 62.16 cents, a saving of 23.31 cents per barrel. The Oklahoma rates are less than those of East Texas, North Texas and North Central Texas so that the Kansas refineries have an even greater advantage over Texas competition in shipments to middle western states west of the Mississippi River.

The foregoing relative situation in regard to rail rates is not new, having existed ever since refining became a major industrial activity in southwestern states and is based on the fact that Kansas is closer to a large consuming section to the north. It is mentioned here because unquestionably the lower rates are now and will continue to be a controlling factor in all future refinery expansion, a development which has direct significance to all operators regardless of their locations.

Truck Movement Large

In addition to the railroads, truck transportation is a more important factor in gasoline movement than in many other states. Kansas is consuming approximately 32,000 bbls. of gasoline daily based on average figures for one year. This is approximately 50 per cent of the daily average output of the refineries within the State. In addition Kansas is a large consumer of kerosene and tractor distillates. A substantial part of these products are transported from the refineries to the service stations or bulk stations by trucks. In the southern part of the State a part of the gasoline comes from a group of northern Oklahoma refiners.

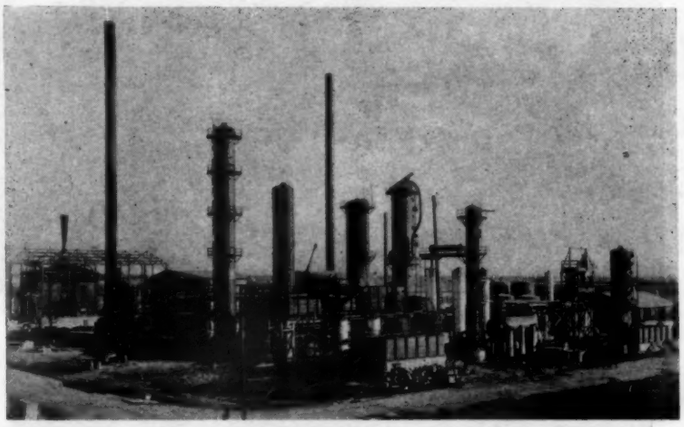
In addition to the intrastate truck movement there is a steady truck movement of gasoline and other products to the adjoining States of Nebraska, Colorado and Missouri. The following information showing the number of trucks engaged in transporting gasoline was presented at a hearing before a committee of the Kansas legislature now in session:

	Trucks	Dec., 1932 No. of loads
Kansas	145	1,327
Nebraska	61	441
Missouri	25	123
Colorado	18	81
Total	249	1,972

The above report does not include trucks operating within the 25-mile limit and only those with a capacity of 1,500 gallons or more.

A large number of jobbers in Kansas and adjoining states operate fleets of trucks and secure all their products from refineries in this manner. In addition, some of the refineries have truck facilities to transport gasoline to their company owned stations and those of jobber customers. There is also an increasing number of independently owned truck fleets which operate as carriers between refineries and stations with transporta-

Two Major Refinery Projects Nearing Completion in Kansas



Upper view—New refinery of the Globe Oil & Refining Co., at McPherson, Kans. The refinery which will have a crude oil capacity of 8,000 barrels daily with modern cracking facilities is now being completed and will start operating next week. Lower view—Construction work under way at Argentine, (Kansas City), Kans., refinery of the Sinclair Refining Co. The improvement program at the Argentine refinery includes practically all phases of plant operation. View shows large cracking installations

tion charges which are lower than those of the railroads. These truck hauls are made up to 250 miles during the summer months with the bulk of the movement within a radius of 100 miles of the refinery sources of supply.

This truck movement is particularly attractive in shipments to the south central part of Nebraska. The interstate rail rates to this Nebraska territory are considerably higher than the intrastate rates to the adjoining territory of northern Kansas. For example, cases are cited where the intrastate rate to a northern Kansas point is 1.1 cents per gallon on gasoline and approximately 2 cents per gallon a few miles farther north in Nebraska. This "hump" in the rail rate structure has resulted in steady day and night movement of trucks across the Nebraska line from the Kansas refineries.

For a time this truck movement was tied in with the supposed large evasion of gasoline taxes in Kansas and adjoining states. It is believed that this evasion so far as the truck shipments are concerned has been reduced to a minimum. Refiners in Kansas and Oklahoma who are making these shipments are cooperating with the Kansas Gasoline Tax Evasion Committee and daily reports are made. In some cases representatives of the committee have been stationed at refineries in order to accurately check the shipments to jobbers. This information is later checked by state officials against reports made for tax collection.

McPherson Refineries

The town of McPherson, county seat of McPherson[1] County is the center of new refinery construction. In December the Dickey Refining Co., Wichita, Kans., started operating its new plant, which has a crude oil capacity of 3,500 bbls. daily with adequate cracking capacity to handle all the cracking stock available from the crude.

Either this week or next the Globe Oil & Refining of Kansas will start charging the first crude to the stills of its 8,000-bbl. refinery. This refinery, which incorporates the latest features in the Winkler-Koch design of a combination skimming and cracking plant, is the largest modern refinery built in the Mid-Continent in several years. In output of light oil products the Globe refinery will rank among the first three or four in Kansas. It is an excellent example of the possibilities in the design of new refinery equipment. Although the refinery will completely skim and crack in excess of 8,000 bbls. of crude oil daily, the plant proper occupies a space about 400 feet square which contrasts with old plants of similar capacity requiring several acres of land. Reflecting the lower cost of equipment and the great strides in efficient design, this plant, based on capacity, was built at a much lower expenditure than was possible a few years ago and will be operated with a fraction of the labor costs required a few years ago.

Both the Globe and Dickey refineries were designed for permanent operation. Decision to build the plants last year was in part due to the fact that both companies had large production in the McPherson area and were unable to secure adequate outlets for the crude oil. The Lario Oil & Gas Co., affiliated with the Globe company, has production in two fields in the McPherson area. The company is building pipe lines in that area so that it will be able to purchase from producers in several pools as well as take the production from the Lario wells. The Dickey company, which has a pipe line to its wells, is taking production from other producers.

Favorable Location

In addition to the large crude oil production available from several new pools within a radius of 50 miles from McPherson, the town has other advantages as a site for refineries. Both the Santa Fe and Rock Island railroads serve the town and the Union Pacific and Missouri Pacific main lines pass through McPherson County.

In regard to truck hauls, McPherson has an advantage over older refinery towns and cities located in the central and south part of the State. The town is about 60 miles north and west of Wichita and has an advantage over towns to the south and east in serving a large part of western Kansas, Colorado, northern Kansas and southern Nebraska. Due to this situation both the Globe and Dickey companies have facilities for loading trucks.

Recognizing this situation, the Derby Oil Co., which has a refinery at Wichita, Kans., is now building a large truck and tank car terminal near the Globe refinery at McPherson. The company expects to serve a part of its truck trade from this terminal. Company officials have stated that if satisfactory freight rates are not secured between Wichita and McPherson that a gasoline pipe line will be built.

At the same time the Globe company has tentative plans to build a 4-inch line north from the McPherson refinery into southern Nebraska. The line, if built, will pioneer in a new application of pipe lines for the transportation of refinery products. It is planned to have truck terminals at several points along the line. Jobbers in northern Kansas and southern Nebraska would then be able to secure their gasoline in trucks with much shorter hauls than are now required. Where savings would accrue, the line would also have tank car loading facilities. It is known that other refiners have considered the feasibility of building lines of this type either individually or as joint operations.

Sinclair Improvements

The expenditures now being made by the Sinclair Refining Co. at its Argentine (Kansas City, Kans.) and Coffeyville refineries are said to total around $3,000,000. At Argentine the refinery is being almost completely rebuilt. The company operated a refinery there for several years. The plant, which had a crude oil capacity of 12,000 bbls. daily, was shut down in 1931. Last fall the company decided to rebuild the plant, installing the latest crude oil and cracking distillation equipment of Sinclair design, and the plant will be completed and in operation by next month.

Improvements similar to those at Argentine are being made at the Coffeyville refinery, one of the oldest plants in Kansas.

Phillips Refinery

At Kansas City, Kans., the Phillips Petroleum Co. recently completed the installation of additional cracking capacity and a crude oil unit is now being installed. Although this new work is largely replacement, there has been a gradual increase in the capacity of the Kansas City refinery since it was taken over by the Phillips company through merger with the Independent Oil & Gas Co. The refinery now has a rated crude oil capacity of 10,000 bbls. daily.

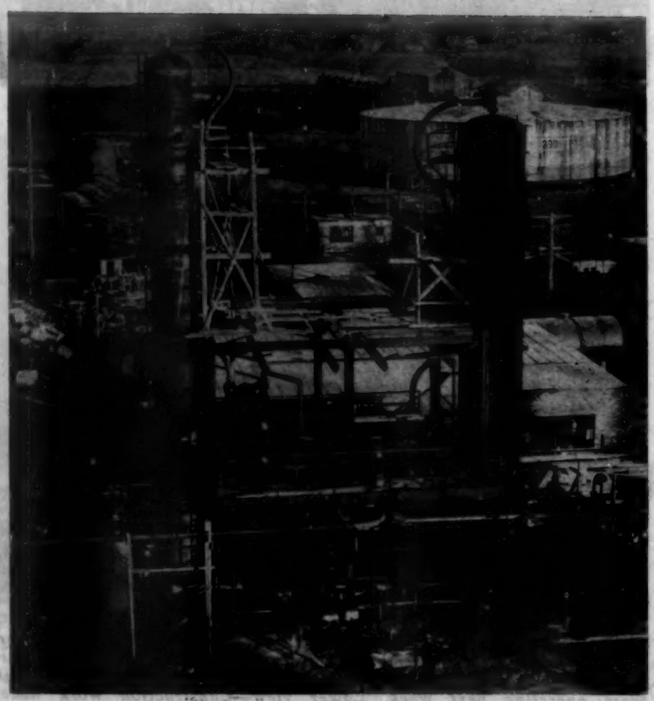
According to reports in Kansas refinery circles a large increase in capacity at the Phillips refinery is in prospect. The company is now building an 8-inch pipe line from its Oklahoma City production connecting to its Kansas pipe line system at Thrall, Kans. The Kansas main line to the Kansas City refinery is to be looped with a 6-inch line. It is pointed out that the additional pipe line will furnish crude oil at Kansas City far in excess of the present rated capacity of the Kansas City refinery. It is also reported that expansion in the company's gasoline pipe line system—now the largest of any single company—will follow the increase in refinery capacity. At present the Kansas City refinery is connected to a main gasoline pipe line of the Phillips company extending from Borger, Tex., to St. Louis. It is said that the company plans to extend the pipe line east from St. Louis.

At Hutchinson, Kans., a 2,000-bbl. skimming plant, formerly operated under the name of the Hutchinson Oil & Refining Co., has been reopened under the name of the Sunflower Refining Corp. after a shutdown of several years. Producing interests having holdings in western Kansas are furnishing crude for the plant and are financially interested in the refinery. The company expects to distribute a large part of the refinery output in trucks.

Henry A. Dickason of Denver, Colo., and Roy Miller, refinery engineer of Wichita, Kans., have announced plans for the construction of a 500-bbl. refinery at Great Bend, Kans., which is 60 miles due west of McPherson. If built, the plant will be the farthest west of any of the Kansas refineries.

[1]For complete report on McPherson County fields and McPherson County see The Oil and Gas Journal, September 9, 1932, page 33. The Annual Number of The Oil and Gas Journal, January 26, 1933, issue, page 38, under the heading, "Seven Pools Opened in Kansas," reviews the 1932 developments in Kansas covering the discovery of new fields

Views of Construction Work Under Way at Coffeyville Refinery



Upper view—General view of improvements at Coffeyville, Kans., refinery of Sinclair Refining Co. Lower view—New debutanizer and stabilizer nearing completion at Coffeyville refinery

Allred Protests Hearsay Testimony at Investigation

(Continued from Page 10)

the final disposition of many of the complaints.

New Form of Tender

J. D. Copeland, Jr., in charge of checking tenders for the commission, said a new form of tender soon will be ordered by the commission and that it will eliminate much evasion that has been possible under the old form.

D. R. Biggers, another commission investigation, said most violations he knew of were from wells connected to a few pipe lines which held Federal injunctions restraining the commission from enforcing proration rules. He estimated that the maximum excess from the Kilgore area, in which he is located, had been 3,000 bbls. in one day, while the average is much lower. It was his opinion that more operators are complaining than previously. Enforcement now is as thorough as it was under martial law, he believed.

J. M. Foley, a special investigator for the commission, who identified himself as an undercover man, advanced the belief there are fewer violations in the field than three months ago, and that some operators who previously have obeyed proration orders have violated them recently, "maybe to find out what could be done with them."

Because of the scarcity of meters on loading racks, refineries and certain pipe lines, there is no way to tell how much oil is going to refineries and out of the field, Foley said.

Straight-run gasoline output down 13.9 percent

Gasoline consumption down 10.1 percent

Cracked gasoline output down only 9.6 percent

Increase in cracking seems to be a reflection of demand for gasoline of higher octane number

—Estimate for six months to April 1 by Federal Oil Conservation Board Committee

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Another Crisis Passed

The latest crisis over proration has been passed and the industry is already feeling better.

There may and probably will be other crises in the future, as there have been in the past, but the main trend is constructive.

The proration policy which has carried us over the rough going of the past five years has no alternative but disaster.

It was this dilemma, emphasized by spreading doubt of ever obtaining effective enforcement, which stared the board of directors of the American Petroleum Institute in the face when they adopted the aggressive stand for continuance of proration at their meeting in New York last week.

The plain question was, is proration to be abandoned or is it to be honestly and vigorously supported?

The principle is sound and has been approved by 95 per cent of the producing industry. But failure to secure co-operation from the other 5 per cent and weakness of enforcement has to a large extent nullified the efforts of the vast majority.

This continued failure to realize the benefits due from proration —stabilization of the industry—could not continue indefinitely. Supporters of proration could not be expected to let the tail wag the dog forever.

If the heedless minority insisted on cheating proration then the only thing to do would be to abandon proration and meet them on their own ground. Abandonment of proration would rob them of their unfair advantage and force them to meet competition on even terms.

This was about how the situation stood calling for a clear cut decision one way or the other. The principles proclaimed by the directors of the Institute leave no doubt about it.

In order for this program to succeed, the board declares "it is absolutely necessary that the lawful orders of the State Commissions be rigidly enforced and every person engaged in the industry should assist the Commissions in enforcing such orders, and should avoid any and all acts which would directly or indirectly circumvent or tend to defeat such orders."

If this vigorous language can be supported by equal vigilance enforcement should be made much easier than it has been.

There has been a disposition to attribute shortcomings in enforcement to politics but although political administration is what it is the industry has a responsibility of its own. Such directness as displayed by the directors of the Institute would be of great value in aiding enforcement in the field.

The statement of general principles adopted by the board of the Institute is inclusive and conclusive enough to cover the ground.

The unequivocal acceptance of the market demand statute as the basis of operations is fundamental. Adherence to the allowable would balance production with demand and "if the States adequately enforce their conservation laws, the effect should be the marketing of all oil produced at the competitive prices publicly posted."

It has been the production of oil in excess of the allowable that has kept prices at distress levels. No buyer, as President R. C. Holmes says, "can afford over an extended period to pay higher prices than those at which his competitors can secure their supplies or any considerable part of their supplies."

"With bootleg oil out of the picture," says Mr. Sinclair, "we shall be on the road to much sounder conditions."

It is the hope, following the declaration of principles by the Institute, that there will be a renewal of effort to secure effective enforcement and support which has improved the tone of the industry in the past few days.

It is now clearer than ever that proration is here to stay. So long as the threat of overproduction exists there is no other remedy. Aside from what the industry thinks there is the fact that state regulation is now a fixture. All the industry can do now is to try to make the best of it.

That can be accomplished only by thorough-going co-operation in enforcement of reasonable regulations, thereby avoiding unreasonable restrictions.

The net effect of the efforts to defeat proration has been to strengthen the demand for more rigid regulation in order to escape the demoralizing consequences of overproduction. If the oil industry hopes to continue in control of its own business it will throw its full power behind the enforcement of existing regulations so there may be no excuse for further interference.

There should be no further talk of proration breaking down or being abandoned. It cannot be abandoned because the states will not abandon it. It cannot be abandoned because the industry knows it is the one hope of stabilization.

The fault has not been with proration but with the enforcement or lack of enforcement of it. The consequences of violations have been exasperating and disheartening but a really united and determined industry could have dealt with them.

The new hope that such unity and determination will be found behind the Institute's declaration of principles is the most encouraging feature of the day.

All that stands between the industry and stabilization is this bootlegging of oil and the gasoline made from it. The industry has never been able to realize the promise of proration because we have never had it enforced. There is an opportunity now to have it enforced with the assurance that the elimination of bootleg oil will restore sound conditions and normal markets.

The approach of Spring and the opening of the main gasoline consuming season emphasizes the necessity for stabilization within the next two months if we are to avoid another unfavorable year.

The industry will move towards better prices in direct proportion to the success of its efforts to make proration effective. The prosperity of the bulk of the people of Oklahoma and Texas is in direct ratio to the stability of the oil industry which is the mainstay of the public revenues and the most important factor in the commercial life of the states.

There are multiplying indications that the industry is at last fully awake to the situation and that the necessary co-operation and vigilant support of proration will be forthcoming.

The overwhelming sentiment now is: "Let us give proration a real chance."

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DRESSER COUPLINGS DOMINATE

Gasoline Firmer in Oklahoma Refinery Market With Heavy Demand for Furnace Oils

By C. O. WILLSON

Firmness was characteristic of the Oklahoma (Group 3) market for several refined products the first of the week.

Sellers were practically a unit in refusing to give concessions in all grades of gasoline including natural gasolines. The latter again occupy a strong market position with a steady demand taking all the material available. In the refinery gasolines, many buyers were willing to purchase low octane U. S. Motor at a low of 2 cents basis Group 3. The low market to the trade was 2⅛ cents with less than the usual quantity of material being offered on the spot market up to Tuesday.

The cold wave throughout the Middle West which started early in the month continued to be reflected in a steady demand for all grades of furnace oils. Some grades were scarce and sellers were able to advance their prices fractionally without loss in business. The high gravity fuels of low cost test are also in demand but the low gravity industrial grades are not active and with increased offerings prices on all grades are slightly lower. The industrial gas oils including cracking stocks at best are no more than holding their own with occasional sales reported at low prices which indicate the "unloading" of excess material.

The strength in the gasoline market apparently reflected another change in general marketing conditions which supposedly point to an improved crude oil situation. In fact, many refiners refused to sell spot gasoline starting the latter part of last week giving full credit to the widespread reports that posted Mid-Continent crude oil prices were to be advanced from the low levels established last month. Failure of the advance to materialize on Monday and Tuesday dampened the ardor of these sellers and it was predicted that more gasoline would be available before the end of the week.

The week's contribution to the general oil situation was a statement by the board of directors of the American Petroleum Institute explained elsewhere in this issue. The statement, for the immediate future at least, assured the support of major oil interests to the continuance of proration programs in the principal producing states and by some was interpreted to mean that regardless of what happens to prices the "lid" is not to be lifted in the flush fields.

Changes in Crude Situation

This statement was followed by a report which quickly spread through the trade that posted crude oil schedules were to be advanced. Contrary to this view, several who are generally well informed do not look for any changes in posted crude oil prices before next month and no advances at that time unless certain developments materialize in regard to the enforcement of proration rulings to the end that the market influence of bootleg crude oil will be eliminated. In this connection it is said that the quantity of "hot" oil has been reduced in both Texas and Oklahoma and this in turn has meant that less crude oil is now available under the posted prices. It is said that when this "hot" oil has entirely disappeared the industry will be on a sound basis which will justify higher posted prices for crude oil.

Students of tank car markets endeavoring to interpret the developments of the past week are divided in their conclusions. The statement that "proration rulings are to be rigidly enforced" has been heard many times in refinery markets over the past two years and the attitude of part of the trade is summarized by one refinery executive who paraphrased a famous statement regarding the weather that " a great deal has been said about proration but nothing has been done about it as regards enforcement." These skeptics will literally "have to be shown" before they will take seriously any promises that state proration measures are to be enforced to the point where they will furnish a firm crude price basis on which to build satisfactory tank car and retail markets for refinery products. Until this foundation is obtained those who are sponsoring higher prices for crude oil will encounter strong opposition from a group of refiners who feel that they have been victims too often over the past two years when refinery prices failed to reflect advances in the cost of raw material.

These refiners are outspoken in their contentions that advances in their mar-

Refined Market Barometer

Refinery markets throughout the greater part of the United States over the past week continued unsettled with most price changes showing a continued downward trend. Considerable price cutting was reported in markets on motor fuels and important price reductions materialized in both tank car and retail prices. There was a heavy movement of furnace oil and some other grades of low cold test fuel oils and prices were generally firm in these products. No important changes were reported in kerosene. Heavy fuels and gas oils were generally unchanged. Natural gasolines were exceptionally strong in the Mid-Continent and eastern territory. Price changes announced in cylinder stocks and neutral oils in all cases were downward. Paraffin wax prices lower in East.

Mid-Continent—Firmer prices for refinery gasoline although new business slow. Natural gasolines strong. Good movement of furnace oils and all grades firm. Kerosene unchanged. Low cold test fuels and gas oils steady. High cold test fuels weak. No changes in lubricants and wax.

East Coast—Uncertainty in gasoline market with considerable underselling of prices established by major refiners. Kerosene more freely offered. Good demand for furnace oils. Fair demand for heavy fuels and gas oils. Some grades of steam refined stocks lower in price.

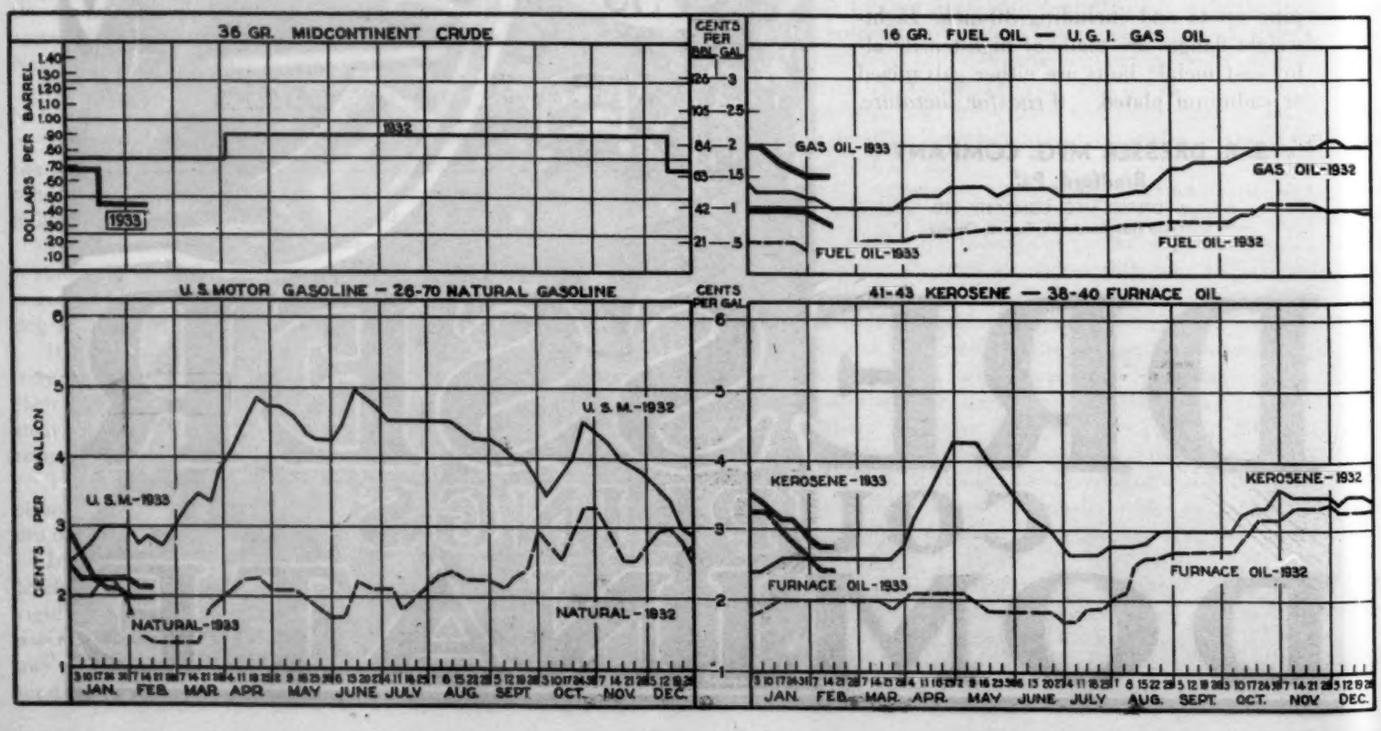
Pennsylvania—Prices on steam refined stocks and bright stocks lower. Slow demand for neutrals. Gasoline weak. Fair demand for kerosene.

Chicago—Better tone to gasoline market. Furnace oil prices steady with heavy movement. Fair demand for low cold test fuels and industrial gas oils. Special naphthas unchanged.

Gulf Coast—Gasoline prices steady. Kerosene strong. Little new business in neutral oils.

California—Tank car markets lower following reductions in retail prices. Good demand for kerosene. Lubricants weak.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



kets should precede rather than attempt to follow increases in the prices paid for crude oil. They point out that even at the low posted schedules now prevailing for crude oil, the average refiner cannot break even in his plant operations due to the extremely low prices prevailing for gasoline and other products. They state that when governmental agencies are successful in enforcing their proration orders and major buyers increase their purchases, that bootleg crude will pass from the market picture and all refiners will then be on a parity in regard to crude oil costs.

It is maintained that when this goal is reached cheap gasoline and other refinery products which have dominated markets for many months will disappear and immediately the legitimate operators will be in a position to advance their quotations to profitable levels and the refining and marketing branches of the industry can get started on a program to bring order out of chaos in markets starting at the refineries and ending in retail outlets. That crude price advances will logically follow the successful carrying out of such an operating plan is the further contention of its advocates. "Let's put the horse in front of the cart again" is one observer's summary of the plan to let stronger refinery markets precede any future advances in prices for crude oil.

As previously indicated, the foregoing does not reflect the unanimous opinion of the marketing trade in the Mid-Continent and Middle West. There are those who state that refinery markets will continue to flounder around aimlessly as long as posted prices for crude oil are low and they favor advances on the supposition that they will furnish the incentive for strengthening refinery and retail prices. In this conflict of opinions some observers see the possibility of interesting developments over the next few weeks.

Gasoline and Naphtha

There were plenty of buyers in the market on Monday and Tuesday who were willing to pay 1¾ and 1⅞ cents for low octane U. S. Motor gasoline basis Group 3. Considerable gasoline was sold at that price in late January and early February, some of it being for delivery through February. On new buying sellers generally were asking a low of 2 cents, both for immediate shipment and delivery over the month. At the same time practically all Oklahoma refiners were asking a low of 2⅛ cents in sales to the trade for the third grade gasoline and 2⅜ cents for the regular grade.

At these low prices the buyers are in a position to quote on spot business both for export and shipment to Atlantic Seaboard points. In this connection it is worthy of note that independent export buyers are making purchases for delivery to European buyers. This is said to reflect improved conditions in European markets which is enabling buying agencies to place part of the new business with sellers in this country. Those who are in touch with this situation are not willing to predict that this represents a permanent change in foreign markets but they are hopeful that foreign competition will be on a more favorable basis in 1933 than it was in 1932.

The 400 endpoint grades are generally quoted either one-eighth or one-fourth cent higher than the U. S. Motor grade of the same octane rating. However, as explained in these columns last week due to the fact that many refiners are taking as wide a cut of kerosene as possible, the low endpoint gasolines are not bringing their accustomed premiums. Cases are known in which refiners are shipping material of from 390 to 410 endpoint on their U. S. Motor orders. These refiners are getting from 2¾ to 3¼ cents for their kerosene cuts and can well afford to remove the high endpoint fractions of the gasoline which within certain limits adds rather than detracts from the quality of the kerosene. Reflecting this condition some 375 endpoint gasoline was sold in the Mid-Continent during the week as low as 2¼ cents basis East Texas. No Oklahoma material so far as known was offered at that price. Very little 350 and 360 business is reported.

Natural Gasolines

Buyers and sellers are in agreement that natural gasolines are in a strong market position. Apparently the only reason prices are not advanced from their present levels is the attitude of a few manufacturers who do not believe it expedient to seek higher prices until there is improvement in the refinery gasoline market. A large part of the spot buying is coming from two sources, the purchases being moved to the Gulf Coast for export or coastwise movement. At the coast the naturals are either blended with refinery gasolines or stabilized and shipped without blending to foreign and domestic buyers.

The 26-70 grade continued firm in both Oklahoma and Texas at 2 cents. There was also a good demand for the 22 and 20-pound material at prices ranging up to 2⅜ cents. The low on the 18-55 market was 2½ cents in Oklahoma.

The 15 and 11-pound material which were active during the summer months are relatively unimportant at this time with few spot sales reported. Prices range up to 2¾ cents.

The cold weather of the past week which slowed up field operations reduced the production at many Oklahoma and Texas Panhandle plants and this also aided in maintaining a firm market through the week.

Kerosene and Distillate

Kerosene and distillate prices are firm in Oklahoma. New buying was not so active the first of the week but most refiners have sufficient orders to last them a week or 10 days without additional business. The strength in kerosene is partially due to the heavy demand for furnace oil distillates. Some refiners in order to take care of their distillate demand are throwing all or part of their kerosene cut into the distillate stock tanks and thus have reduced their output of finished kerosene for which there is a steady demand. Some high endpoint kerosene has been applied on prime white distillate orders.

A shortage of 32-36 straw zero distillate resulted in the prices being advanced to a low of 2½ cents in Oklahoma. This is higher than the low for the higher gravity straw and prime white grades which continued to be quoted over a price range of 2⅜ to 2⅝ cents. The low of the market to the trade for 41-43 water white kerosene was 2¾ cents with high endpoint material available as low as 2⅝ cents.

Fuels and Gas Oils

The high gravity fuel oils and any gas oils that could be used as furnace oil were strong and prices the same or higher than last week. The industrial grades of fuels and gas oil were not so active. Extremely high cold test gas oils which are not suitable for U.G.I. stock at this time of the year are slightly lower than last week with Texas material quoted as low as 1 cent per gallon. Some of this material has a cold test as high as 70.

Bureau of Mines Statistics on Petroleum for the Month of December, 1932

According to reports received by the Bureau of Mines, Department of Commerce, the production of crude petroleum in the United States during December, 1932, totaled 58,044,000 bbls., or a daily average of 1,872,000 bbls. This was the first time since March, 1926, that the daily average output for any month has declined below the 2,000,000-bbl. mark. The material decline in output in December was occasioned largely by the shutdown of the East Texas Field from December 17 to the end of the year.

According to preliminary figures, the total production of crude petroleum in the United States in 1932 was 781,845,000 bbls., a decrease of 69,236,000 bbls. from 1931. Texas was again the leading producing state although its output for the year, 311,069,000 bbls., was 6 per cent below the total in 1931. The output of the East Texas Field in 1932 was 120,158,000 bbls. compared with 109,630,000 bbls. in 1931. The number of producing wells in the East Texas Field rose from about 3,600 on January 1 to about 9,500 on December 31, while the daily allowable per well on January 1 was 100 bbls. and 37 bbls. on December 17. Drilling activity increased in 1932, when 10,444 oil wells were completed in the United States, compared with 6,788 in 1931.

Total crude runs to stills in 1932 fell to 819,997,000 bbls. from 894,608,000 bbls. in 1931. Crude stocks declined 32,201,000 bbls. during the year. Drafts were made in stocks of all oils in 8 of the 12 months of 1932; the net decline in these stocks was 43,564,000 bbls., the total amount on hand December 31 was 588,172,000 bbls.

The indicated domestic demand for motor fuel in December, 1932, was 27,191,000 bbls., a decline of 11 per cent from a year ago. The domestic demand for 1932 was 373,770,000 bbls., or 7.3 per cent less than in 1931. Total demand, including 35,434,000 bbls. exported, was 409,204,000 bbls., a decrease of 8.9 per cent from 1931. Stocks of motor fuel on December 31, 1932, totaled 49,671,000 bbls., compared with 47,152,000 bbls. on hand a month ago and with 51,521,000 bbls. on hand a year ago. The percentage yield of gasoline continued to increase, amounting to 44.7 per cent in 1932, compared with 44.3 per cent in 1931.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

Week Ending February 11, 1933, Compared to Week Ago

	Week ending February 4			
	(1)	(2)	(3)	(4)
East Coast	99.1	450,000	13,939,000	7,537,000
Appalachian	95.0	72,000	1,932,000	941,000
Ind., Ill., Ky.	97.5	267,000	7,462,000	3,243,000
Okla., Kans., Mo.	94.9	189,000	4,931,000	2,935,000
Inland Texas	57.4	79,000	1,513,000	2,205,000
Tex. Gulf	97.7	427,000	6,261,000	6,836,000
La. Gulf	97.3	84,000	1,539,000	2,325,000
N. La. and Ark.	88.5	41,000	278,000	528,000
Rocky Mtn.	90.8	30,000	1,314,000	530,000
California	94.6	377,000	15,118,000	99,019,000
Total U. S.	91.6	2,006,000	54,287,000	126,202,000

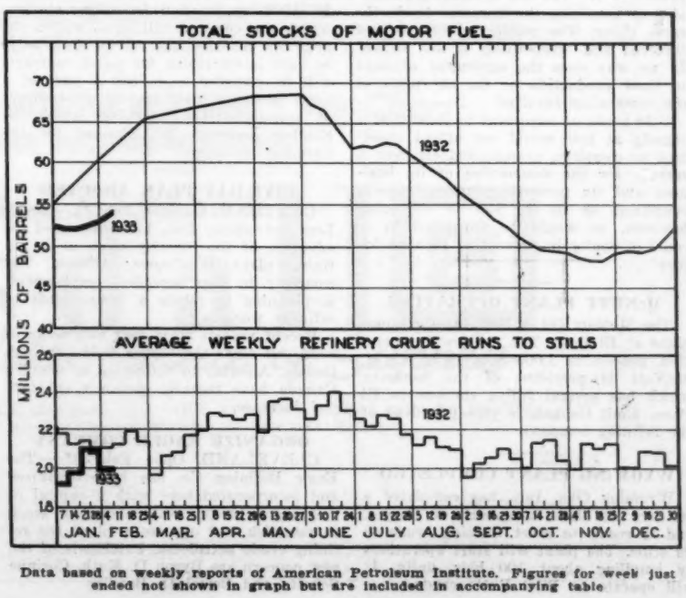
Owing to the Lincoln birthday holiday the weekly A.P.I. figures were not available for publication.

Week Ending February 11, 1933, Compared to Year Ago

	Week Ending February 13, 1932			
	(1)	(2)	(*3)	(4)
East Coast	100.0	425,000	5,676,000	7,110,000
Appalachian	91.8	96,100	1,765,000	1,314,000
Ind., Ill., Ky.	98 9	276,000	5,329,000	4,818,000
Okla., Kans., Mo.	89.6	216,400	3,855,000	3,338,000
Inland Texas	....	124,500	1,897,000	2,795,000
Tex. Gulf	99.8	362,400	7,505,000	7,861,000
La. Gulf	100.0	106,000	1,193,000	3,282,000
N. La. and Ark.	....	45,700	164,000	818,000
Rocky Mtn.	89.4	33,200	1,982,000	721,000
California	97.1	443,600	14,064,000	96,168,000
Total U. S.	95.2	2,128,900	43,430,000	128,225,000

Owing to the Lincoln birthday holiday the weekly A.P.I. figures were not available for publication.

*Refinery stocks only.



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

NEWS FOR PETROLEUM REFINERS

California Court Sustains Validity of Lease Contract

An oil company which licenses a service station operator to sell its products on property on which it has acquired a leasehold interest, has a right to insist that the products of no other company be marketed from the premises.

Such was the substance of a decision handed down by the Supreme Court of California in a suit brought by the Associated Oil Co. The decision is regarded as of major importance to the oil industry in settling conclusively a point which has long proven a source of contention between the major oil companies and operators of service stations on which an oil company holds a lease.

Associated Oil Co. originally filed suit for an injunction against Harold Myers and W. H. Myers, who after leasing a service station from the company and agreeing to purchase and deal exclusively in gasoline and oil products marketed by Associated, proceeded to market the products of other companies. When the suit for injunction was dismissed by the Superior Court, which ruled that such contracts constitute illegal restraints of trade and may not be enforced by injunction, the plaintiff appealed to the Supreme Court, which reversed the judgment in an opinion filed at San Francisco, January 30. The court said, in part:

"As we read the contracts it cannot be seriously doubted that the parties intended that plaintiff should have a leasehold interest in the demised premises, nor can it be seriously questioned that the contracts were prepared and executed in the form in which we find them with the intent and for the express purpose of enabling the appellant to determine the use to which the property should be put during the term of the lease . . .

"It is to be remembered that the plaintiff did not seek to compel the respondents to remain on the property and sell its products. It simply sought to restrain the sale of other products and the display of other advertising . . . It requires no argument to demonstrate that appellant had the right to decline to sell any but its own product upon the leased property. We can see nothing unreasonable in requiring the licensees to do the same thing. The public interest is not involved and competition is not stifled. In no way does the agreement attempt to limit production or fix the price of the commodity involved . . .

" 'It needs no argument to show that a remedy at law would not afford appellant as complete, prompt and efficient a remedy for the destruction of its business and its personal property therein contained, or in the loss of its going business, as would be furnished by a court of equity in preventing such an injury' . . . "

McNUTT PLANT OPERATING

The McNutt Oil & Refining Co.'s new plant at El Paso, Tex., is now in operation, processing 1,000 bbls. daily. C. M. McNutt is president of the company which has several filling stations in El Paso. Emil Geppelt is vice president of the refining company.

WYOMING PLANT COMPLETED

Wyoming Oils, Inc., has completed a refinery at Mills, a suburb of Casper, and is ready to start running crude to its stills. The plant will start operations by handling about 100 bbls. daily. It will operate on Pilot Butte crude.

Receive Offer for Vernon Plant of Hercules Company

LOS ANGELES, Calif., Feb. 11.—Receipt of an offer of $400,000 from eastern interests for the purchase of the Vernon refinery of the Hercules Gasoline Co. has been received by Hubert F. Laugharn, bankruptcy trustee for the company. The refinery has been shut down for over a year. The plant has a rated crude oil capacity of 5,500 bbls. daily with 1,500-bbl. cracking capacity of the Jenkins type.

The offer has been filed by Mr. Laugharn with the bankruptcy court and set for confirmation by Earl E. Moss, referee in bankruptcy, on February 17.

Considerable interest in this sale has been evidenced by the oil industry and the hearing before the referee in bankruptcy may produce spirited bidding, according to Mr. Laugharn.

The interests which have submitted the offer plan to begin operations of the plant immediately in event their proposal is accepted, it is understood. The refinery is served by two railroads and completely equipped for handling refined products by tank truck distribution. Tankage approximates 250,000 bbls. capacity.

EXPAND EAST TEXAS CRACKING

FORT WORTH, Tex., Feb. 11.—The McMurrary Refining Co.'s 2,000-bbl. cracking plant north of Arp, in East Texas, will be in operation in 10 days. R. J. McMurrary is president and M. H. McMurrary is secretary and treasurer of the new company. The plant will obtain topped crude from nearby local plants for cracking. Combination steel and concrete underground storage tanks will be built at the plant to hold the topped crude. W. Lee Woods is construction superintendent and will be refinery superintendent of the plant.

A cracking unit has been installed in the Constantin Refining Co.'s plant at Overton. It will process topped crude from the Overton Refining Co. plant nearby. It is now running around 800 bbls. per day.

SINCLAIR IN CAROLINA

The Sinclair Refining Co. has leased properties in North Carolina valued at $250,000, as location for filling stations which the concern will build within the next few months. The service stations to be built in Charlotte, for which contracts will be awarded soon, are a part of a large program involving the expenditure of approximately $1,000,000 which the Sinclair company has planned for the Carolina territory.

FIVE-DAY PLAN ADOPTED

CHATHAM, Ontario, Feb. 11.—Maple Leaf Petroleum, Ltd., has announced the adoption of the five-day week in its refining plant at Coutts, Alberta. The company, by thus spreading employment, is planning to retain a larger staff of refinery workers.

Recent reports state that shipments of crude oil from the border fields through Coutts, Alberta, to refineries in western Canada have recently shown a substantial increase.

ORGANIZE EAGLE COMPANY

CLEVELAND, Ohio, Feb. 10.—The Eagle Refining Co. has been organized and incorporated here with a capital of 250 shares no-par value common stock to establish and operate a plant for refining crude petroleum. Principals of the new concern are Byron D. Kuth, Corinne Sobotta and Bertel D. Bradley.

Start Operating Central Refinery in East Texas

M. J. Grogan and B. P. Crittendon, both formerly officials of the Louisiana Oil & Refining Co., at Shreveport, La., have formed a corporation with F. W. Burford, president of the East Texas Refining Co., which has taken over the Central Refining Co. plant, near Henderson, in East Texas. The plant, which is now operating, has a topping capacity of 10,000 bbls. daily. It was built about two years ago and was only operated for a short time.

Mr. Grogan, who is president of the new company, operates a marketing company at Shreveport. The company is handling the sales for the Central plant. Mr. Crittendon formerly was vice president of the Louisiana corporation in charge of manufacturing.

Crescent Company to Build Small Plant at Holdenville

The Crescent Refining Co. has been organized and has started the construction of a 1,000-bbl. skimming plant at Holdenville, Okla. Part of the equipment of a small skimming plant at Wewoka, Okla., is being used in the construction of the new plant.

The plant will be operated with crude oil secured from fields near Holdenville. Victor H. Smith of Tulsa is vice president of the Crescent company. P. I. Tinkler has been appointed superintendent of the plant which will be ready to start operations in 30 days.

AUTHORIZE COSDEN SALE

A decree authorizing the sale at auction of the assets and properties of the Cosden Oil Co. of Oklahoma and Texas was issued last week by Federal Judge John P. Nields at Wilmington, Del. The company's whose principal property consists of a refinery at Big Spring, Tex., has been in the hands of receivers for over two years. It was recently announced that the company was to be refinanced and reorganized with Josh Cosden, widely known operator of the Mid-Continent area, as the active head. Plans were completed at that time to remodel the refinery which has been operated by the receiver.

Outstanding obligations of the company total $3,881,000. Hugh M. Morris and George N. Moore are receivers of the company. No date for sale was set.

SELL V. O. E. PLANT

To satisfy a judgment for $31,000 awarded the State of Texas for alleged delinquent gasoline occupation taxes, the V. O. E. refinery was sold for $5,050 at public auction by the Gregg County sheriff last week. The sale was held on the refinery grounds at Gladewater.

R. G. Waters, assistant attorney general, and C. A. Paxton, representing the State Comptroller's Department, bought in the refinery for the State.

It was the second attempt the State had made to collect the taxes it claimed. A prior sale was blocked by a court order obtained by V. O. E. Wright, owner of the refinery.

SUE ON CRACKING PATENTS

The Jenkins Petroleum Process Co. of Chicago has brought suit in the U. S. District Court at Philadelphia, Pa., against Sinclair Refining Co., alleging that the latter company is infringing the plaintiff's patents in the operation of cracking stills at its refineries. The petition asks for injunction and threefold damages for the alleged infringements.

Introduce Bill to Provide Gasoline and Alcohol Blend

CHICAGO, Feb. 11.—Bills to relieve the farm situation by blending corn alcohol in gasoline have been introduced in the House of Representatives at Washington by two Illinois representatives, Homer W. Hall (R.) of Bloomington, and William E. Hull (R.) of Peoria. Both bills are based upon a plan endorsed by farm organizations of Illinois, Iowa and other midwestern states, and they purport to encourage the use of 1,700,000,000 gallons of grain alcohol. On all gasoline not so blended, a tax of 10 cents per gallon would be levied in addition to all other taxes. It may be pointed out that with 2-cent wholesale price on gasoline and 25-cent total tax, refiners in certain localities, at least, would be hard pressed to undersell the blended product.

At Des Moines, Iowa, the legislature has already approved by an act the production of industrial alcohol made from surplus corn and other grains. Now a new bill has been introduced by three senators under title of emergency legislation taking right of way, and the indications are for early passage. The new bill calls for an appropriation of $25,000 for administration, and provides not only for the use of grain alcohol in motor fuel, but gives power to the state executive council to prohibit the sale of motor fuel that does not contain a required percentage of alcohol. The council is authorized to administer the act, regulate the production and sale of grain alcohol, license those engaged in its manufacture, and limit the profits thereof. An enabling provision states the scope of the council thus: "Whenever a surplus of grain above normal consumption occurs, an emergency may be declared to exist, and it is in the public interest and for the public welfare to facilitate and stimulate the orderly consumption of such surplus, the council may declare that distillery producing, manufacturing, selling alcohol, distilled, produced or manufactured from grain, is clothed with public interest."

CONSIDER OWENSBORO PLANT

BOWLING GREEN, Ky., Feb. 11.—The prospects for a refinery in Owensboro, Ky., took on added impetus last week at a meeting when a representative of the Simrall Refining Co. outlined plans to the assembled directors of the Chamber of Commerce. A number of the local operators assured him of their support. It was suggested that an open meeting be held shortly which Mr. Simrall would attend. The Simrall interests are asking for 1,500 bbls. of crude per day. They would pay a 10-cent premium over the posted price. If the refinery is built it would mean that three companies would be taking oil from this field, namely the Producers, the Ohio Oil Co., and the Simrall Refining Co. The latter company is now operating a refinery at Horse Cave, Ky., and one at Amherstburg, Ontario, Canada.

BUILDING SMALL REFINERY

The Golden Petroleum Co., controlled by M. M. McCabe of San Angelo and associates, which own the Blue Bonnett Petroleum Co.'s No. 1 Macmillan producer in the Macmillan Pool, Runnels County, is erecting a small refinery near the Abilene and Southern Railroad, 7½ miles north of Ballinger in the vicinity of the well. The plant is being built principally to process crude from this and other wells which are to be drilled in the small pool.

But what about the others?

PERHAPS you have always considered gasoline and oil as the backbone of your business—suppose it is! Have you ever stopped to consider there is a lot of meat remaining on that bone in the way of extra profits you can make without increasing your overhead? That is the reason for the Barnsdall COMPLETE line as the way to increasing profits, and now to make this line even more complete, Barnsdall offers a complete line of storage batteries. Get in touch with our office nearest you now for data on new ways to profit with products identified by the Blue BE SQUARE—emblem of the World's FIRST Refiner!

SUPER-GAS ETHYL
The luxurious motor fuel of extra power for acceleration in traffic . . . mileage on the highway . . . and power for the hills.

MOTOR OILS
Barnsdall Stabilized Motor Oils meet the most severe tests of any driving conditions regardless of temperature change.

BE SQUARE GASOLINE
An extra quality gasoline at no extra cost—standard grade with premium quality.

GREASES
Barnsdall Greases are especially designed for their specific use and are of uniform high quality.

TIRES & TUBES
All standard first class quality sold at popular prices, triple tested and with an iron-clad guarantee that protects the purchaser.

KEROSENE
41-43 and 42-44 Gravity refined to a higher grade than the most exacting state specifications.

NAPHTHAS & SOLVENTS

INSECTICIDES
Barnsdall Non-Poisonous Plant Spray—Concentrated Cattle Spray—Fly Killer, a Non-Poisonous product and Mothene, a Non-Poisonous Moth Killer.

—and now Batteries!
Barnsdall now offers a complete line of automobile storage batteries built to the BE SQUARE standard of quality.

BARNSDALL AUTOMATIC LUBRICATION WITH THE BE SQUARE *Chek-Chart*
—adds thousands of miles motoring enjoyment

THE WORLD'S first REFINER

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A Dependable Source of Supply

Refineries: BARNSDALL, OKMULGEE, WICHITA. *Sales Offices:* TULSA, CHICAGO, NEW YORK, ST. LOUIS, KANSAS CITY, MILWAUKEE, OMAHA, COUNCIL BLUFFS, TOLEDO, ST. PAUL, MINNEAPOLIS, LOS ANGELES, SAN FRANCISCO.

Noteworthy Improvement in Sentiment in Chicago Oil Trade Following Rush of Buying Orders

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Feb. 13.—Sentiment in Chicago district oil trade circles has undergone considerable improvement. Arctic weather, which sent the mercury to 20 degrees below zero in the city proper, and much lower in the metropolitan area, brought about an unprecedented rush of orders for furnace oils to distributors who in turn hurried out instructions to refiners. However, there were two important factors operating to prevent refiners being snowed under in a buying flurry. In the first place, distributors welcome the cold wave as an opportunity to get rid of stocks that accumulated during the "warmest January in 80 years," and are working for the lowest possible storage level when the main consuming season terminates, and in the second place, transportation facilities have been slowed up due to the weather conditions making delivery uncertain so that there has been some buying among marketers. Although there were reports current that a number of distributors were unable to meet the suddenly increased requirements of their customers, only one case has actually been found where the distributor made smaller deliveries than those ordered. This distributor wished to make sure that he would be able to take care of all his customers for the duration of the cold wave. Such cases may be greatly multiplied and many more distributors may be forced to take an active buying position if the new cold wave, which is expected to remain in Chicago through this week, meets the weather man's predictions.

Better Tone in Gasoline

While gasoline consumption has been reduced to the lowest level, the cleaning up of the under priced materials in the field, and the fact that a number of refiners who have been selling under the markets are reported behind in their shipments from 10 days to two weeks, are reflected in the firmer position this week of the gasoline tank car markets. Daily publications quoting refined petroleum product prices advanced their low for low octane U. S. Motor an eighth of a cent after having moved down for a few days to the 2-cent level for the trade.

Under 2-Cent Commercial Accounts

Several marketers in Chicago district complain that some of the larger tank car lot sellers are making abnormally low prices to large commercial buyers. Sales of material to these accounts, it is reported, have gone for as low as 1⅞ cents a gallon, Group 3. Such low prices to commercial buyers is defended on the ground that if discounts of 1 to 2 cents are justified at the service station, then discounts of an eighth to a quarter of a cent are not out of line on tank car deliveries. It may be pointed out that this practice of discounts has a counterpart in the practice of at least three smaller refiners, one a semimajor, who consistently allow discounts of three-eighths of a cent under the low of the low octane U. S. Motor. Another seimajor permits jobbers to truck gasoline from its bulk plant and allows a discount of half a cent for hauling.

While price cutting in the tank wagon and service station markets continues slightly abated, it appears that some of the worst conditions in connection with oil company contracts and marketing politicies are being cleared up. Nearly all of the companies adhere to the half-cent rental in addition to dealer discounts for controlled dealers on lease and agency basis, and comparatively few allow the half-cent for hauling. Marketing policies in the territory may be summarized as follows:

Loaned and leased equipment: (1) Outside of metropolitan Chicago the company shall not lease or loan gasoline and kerosene dispensing equipment to uncontrolled accounts. The company will supply at its own expense all necessary equipment for lease and agency accounts; (2) in metropolitan Chicago the company will conform with competitive practices in this area.

Tank car service station buyer: To tank car service station buyers whose chief business is the sale of petroleum products through their own service stations nearby, and whose sales to dealers or commercial accounts are of no consequence, under contract and handling the company's branded products, a delivered margin of 5 cents a gallon for the regular grade gasoline off the prevailing state service station price of the company at time of delivery and 5½ cents a gallon for the premium grade.

Tank wagon deliveries: (1) Consumers: (a) Outside metropolitan Chicago, 500 to 75,000 gallons monthly, 3, 2½ and 1 cent, off tank wagon for the three grades of gasoline. Over 75,000 gallons monthly, an additional cent; (b) in metropolitan Chicago, 500 gallons per month, 4, 3½ and 2 cents off tank wagon market. On all deliveries of 25 gallons or over from tank wagon, 1 cent off tank wagon price on all grades. (2) Dealers: (a) Outside metropolitan Chicago, under 75,000 gallons a month, 3, 2½ and 1½ cents off service station market posted; over 75,000 gallons monthly, an additional cent off of premium and regular and a half cent off the third grade off tank wagon posted price; (b) metropolitan Chicago, on any quantity, 4, 3½ and 2 cents off the service station market if under 75,000 gallons monthly, and off the tank wagon market if over 75,000 gallons monthly.

Service station deliveries: One-cent discount to commercial customers on contract for premium and regular purchases. No discount on third grade. Discount given to contract customers only, but may be either cash or credit. Commercial accounts are those having licensed in accounts' name and commercially using in their business at least one truck, bus or cab and/or a minimum of five motor vehicles other than a truck, bus or cab.

In the wholesale marketing division contracts governing tank car sales to jobbers are in much better agreement than they have been in some time. Prices, generally, to branded and unbranded jobbers are based on the average spot market for like materials published daily, Group 3, plus all rail rates in force on date of shipment to destination. If the spot price so determined gives the jobber a margin of less than 5 cents below the posted service station price in the state shipped, then the contracting parties shall share equally the deficit below the 5-cent margin. At no time shall the price f.o.b. Group 3, be less than the price of 2 gallons of 36-degree gravity Mid-Continent crude oil at the well, as posted by the major oil companies purchasing crude oil in Oklahoma. The price of the third grade gasoline shall at no time be greater than a quarter of a cent a gallon under the regular grade gasoline.

Attention may be called to one new feature in these contracts. This is in connection with the lending of equipment. The addition would indicate that conditions in this respect reflect a vigorous competition in Metropolitan Chicago for new outlets. It may be noted, too, that the stop clause holds the minimum to 2.1 cents a gallon.

Service Station Price Changes

Recent price revisions are announced by Standard Oil Co. (Indiana) in the territory: Green Bay, third grade gasoline service station price was advanced 2 cents to 15.3 cents, February 9; Mason City, tank wagon price of the third grade gasoline was reduced to 11.6 cents, February 4. At St. Louis the tank wagon price of the third grade was reduced 1 cent to 9.5 cents, February 8. At Milwaukee the third grade service station posting was cut to 12.5 cents on February 1, and the tank wagon price followed on February 2. At St. Joseph the regular grade gasoline service station price was advanced 1 cent to 10.9 cents, February 2. At Mankato service station posting on third grade gasoline was cut three-tenths of a cent to 13.0 cents, January 29, and at Grand Rapids the third grade gasoline service station posting was cut half a cent to 13.5 cents, January 21. The kerosene tank wagon posting at Huron was reduced 1.8 cents, February 6, to 10 cents.

State Loses Million Taxes

Illinois has, since gasoline tax collections were reinstated August 1, 1929, lost nearly $1,000,000 due to evasion of the gasoline levy and tax delinquency, according to the audit of Garrett D. Kinney, director of finance, who has retired in favor of Joseph J. Rice, temporary director. The period covered is up to January 1, 1933. The loss in revenue falls into two classifications, losses by tax evasion, $680,780.83, and tax delinquents, $311,633.27, a total of $992,414.10.

Kerosene Tank Car Markets

The kerosene tank car markets are unchanged in price, but firmer in sympathy with the better distillate markets. Considerable kerosene is being used in blending 18-22 fuel oil to make the heavy product available for domestic use.

Gasoline Tank Car Markets

The gasoline tank car markets are showing a little more firmness at the beginning of business this week, although weather conditions do not encourage motoring. The highways are still difficult and will become more so if predicted snow over the north central states materializes. However, there is every indication that refiners have tried out the lowest price levels and are reaching the conviction that business cannot go on at such levels. Morever, the Federal authorities are working to eliminate the practice of evading the government tax levied at the refineries, so that there are three important factors working for betterment in the gasoline tank car markets, if the tax angle is included in the group with better outlook for stricter supervision of crude oil production and the economic fact that many refiners who have been offering cheap gasoline are unable to place a considerable by-product, high cold test fuel oil.

Prices are unchanged from those shown in these columns last week. There is still a month and a half ahead before the personal property assessors begin checking up on oil stocks, so that if refiners continue to refrain from sending material into this district until the return of milder weather, it is quite likely that advances of an eighth of a cent will be made this week.

Special Naphthas

The special naphtha tank car markets show little tendency to change. Several of the larger sellers have taken a determined stand against shading prices for anyone. A representative of one of the larger companies said that it has been his experience that buyers almost invariable claim that they can get material cheaper "elsewhere." This marketer says, "Since we decided to tell these buyers to go ahead and buy where they could get it cheaper, we have more often than not received an order later in the day or the next morning from these buyers. I would say that more than 75 per cent of the cut price specification naphthas exists in the minds of the buyers only. We have set our prices and if we cannot sell at a fair profit we will not sell at all."

Several newcomers are noted in the special naphtha field. At least four of the larger companies have recently begun to seek this business, and are making prices which represent cuts of as much as 2 cents under the ruling Group 3 markets on certain products, principally petroleum thinner and V.M.&P. naphtha. One major company is quoting f.o.b. district refinery, and is allowing a part off of the rail charges from Group 3. The delivered price quotations are causing most trouble in Indiana and the Ohio territory.

Distillates and Fuel Oils

The distillate tank car markets show no price differences for the three most important materials in the district. Because of the lower freight rate taken by the materials under 36 gravity, several refiners are naming higher prices for the 32-36 zero straw distillate than for the 38-40 straw or prime white zero distillates. The ruling markets Monday for all of these materials were identical, 2½ to 2¾ cents, Group 3. The 32-36 industrial gas oil advanced slightly to a range of 1⅝ to 1⅞ cents.

The supply situation as well as the weather influenced the fuel oil markets this week. Two of the fuel oils, the 24-26 gravity and the below 18 gravity fuel oils remained unchanged in price, while the 22-26 gravity zero material lost ground, moving down to 57½ to 62½ cents, from 60 to 65 cents. The 28-30 zero fuel oil moved up to 95 cents to $1, and the 26-28 zero fuel oil made a similar advance to 80 to 85 cents. The 18-22 zero fuel oil moved up slightly to 52½ to 57½ cents.

Cheaper Farm Fuels

Several of the oil companies operating in the South Dakota area have improved the combustion characteristics of their 32-36 and 36-40 straw distillates so that farmers are using these distillates in their kerosene lamps, stoves and incubators, as well as in their tractors. The companies say that the distillates were improved because the farmers could not afford to pay the price of the regular illuminating and tractor oils. Whether this policy will continue if the I.C.C. decides to allow any distillates "not suitable for illuminating oil purposes" to take fuel oil rail rates, is a question which time will solve.

Sharp Drop in Consumption Weakens Position of Motor Fuel Markets in East Coast District

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, Feb. 13.—An indicated substantial decline in gasoline consumption in this area has brought about renewed easiness in the motor fuel market, with retail prices particularly affected. Tank car gasoline markets are soft, but posted prices remain unchanged. In the retail end of the business, however, marketers appear to have cast all discretion aside, and with selling operations stressing third grades, the market has eased off to as low as 11 gallons for $1, including the 2-cent state tax and 1-cent Federal tax, at filling stations in some parts of the Metropolitan area, although 10 gallons for $1 is the average going price on this grade.

Notwithstanding statistics indicating that the current easing off in gallonage is attributable directly to curtailed consumption, some of the marketers in this territory, including the major interests, have apparently come to the conclusion that their gallonage totals are dropping at a rate disproportionate to the general curtailment in consumption, and have determined to recover this lost gallonage through the medium of price cutting. Where only two or three of the principal marketers were stressing third grades at the start of the month, all of the major companies are now pushing the cheap product. This tendency has had a most demoralizing effect upon the market. Not only are refining and marketing margins cut to the bone, but the good-will built up by the leading companies through publicizing the superlative qualities of their "regular" grades is being seriously affected. Most of the companies post conspicuously "10 gallons for $1," or "11 gallons for $1" at their stations, and it is not until the motorist pulls up at the pump that he learns that the gasoline so advertised is not the "regular" grade handled by the station. While this realization sways many motorists to the point where they will pay the higher price for the regular grade, others are content to try the third grade, and the gallonage totals of major marketers on their regular gasolines is in consequence further cut down.

Refinery Gasoline

While refiners are talking in a more optimistic vein, actual developments last week were just the contrary. Against a posted price of 5½ cents per gallon, tank cars, f.o.b. terminals, renewed price cutting had carried the market down as low as 4½ cents per gallon in competitive trading, and it appears only a matter of time before the "official" posted price will be forced down to 5 cents per gallon or under for U. S. Motor gasoline.

On the higher grade product, testing 65 octane number and above, the posted price was 5¾ cents per gallon in tank cars at refineries or terminals, but here again price cutting was becoming more general, and prompt business could be worked around 5 cents.

Effective February 8, Atlantic Refining Co. reduced tank wagon and service station gasoline prices 1 cent per gallon in eastern Pennsylvania and Delaware, and 1½ cents in western Pennsylvania, other marketers following in this action.

Also effective February 8 was a reduction of one-half cent in tank wagon prices and 1½ cents in service station prices in Boston territory by Standard Oil Co. of New York, Inc., and other marketers in that area.

Kerosene

In sympathy with the general weakness in gasoline markets, the refinery kerosene situation eased off somewhat during the past week and for the first time in many months price shading was reported in some quarters of the tank car market. Leading refiners continue to post 5½ cents per gallon for water white in tank car lots, f.o.b. refineries or terminals, but a little business was reported put through at 5¼ cents.

Retail consumption of kerosene has been well maintained throughout the area during the period under review, and prices have been well held at posted levels.

Fuel Oil

While the market undertone is less firm, leading refiners in this territory have not as yet given any indications of cutting their posted prices, and the market continues held at 75 cents per barrel, in bulk, f.o.b. terminals, or 80 cents per barrel f.a.s. within harbor limits at the principal East Coast bunkering ports. Volume was holding up fairly well last week.

With more vessels coming into service in the transatlantic and intercoastal runs, refiners are looking for some improvement in demand during the second quarter.

Leading sellers at Aruba are now quoting bunker oil in cargo lots firm at 45 cents per barrel, 5 cents over recently prevailing quotations.

Gas Oil

Contract deliveries were well maintained during the week, and the market continued unchanged at a range of 3¾ to 4 cents per gallon for 28 gravity minimum oil, the top price being the posted figure.

Stocks of gas and fuel oils held at East Coast refineries showed a decline during the week ended February 4, totaling 7,537,000 bbls. on that date, as compared with 7,835,000 bbls. at the close of the previous week. Refinery runs at East Coast plants were off, averaging 450,000 bbls., as compared with daily runs of 472,000 bbls. for the preceding week.

Diesel Oil

Refiners continue to hold the market at $1.65 per barrel for 28-30 gravity Diesel oil, in bulk at terminals, or $1.71½ per barrel f.a.s. within harbor limits for deliveries to motor vessels. A good volume was reported during the week. For shore delivery, the market was unchanged at 4 cents per gallon for 26-30 gravity oil, tankers, f.o.b. refineries or terminals.

With Diesel oil available at 85 cents per barrel in California, and the tanker rate for intercoastal shipments low, the trade here is speculating on the Diesel oil price trend during the second quarter. California Diesel oil, it is pointed out, can be laid down at East Coast ports at an attractive differential under present posted prices.

Furnace Oil

Cold weather has made for continued activity in the refinery markets for furnace oils, and tank car shipments showed some increase during the week. For 36-40 oil, refiners are quoting 5 cents, with 32-36 quoted at 4 cents per gallon and 21 gravity industrial oil at 3½ cents, all tank cars, f.o.b. terminals.

Leading marketers locally are quoting tank wagon deliveries at 7 cents per gallon for 36-40 oil, 6½ cents for 32-36 and 28-32, 4½ cents for 18-20 gravity oil, and 2¼ to 2½ cents per gallon for heavier oils. Minimum deliveries on the lighter oils at the above prices are generally 150 gallons, with a half cent premium for smaller pumps.

Paraffin Wax

Further easiness developed in last week's market, and prices were again fractionally off on several grades, as follows: 130-132 a.m.p., 3 cents per pound, off one-eighth; 133-135 a.m.p., 3⅞ cents, off one-eighth; and 135-137 a.m.p., 4 cents per pound, off one-quarter.

Domestic inquiry was a little more active, but continued quiet was reported in the export market.

Lubs

Spot 600 Warren E was quoted off one-half cent per gallon during the week, at 18½ cents, with 630 flash, s.r., offered at 23 cents per gallon, also a half-cent reduction. Other grades of cylinder oils were unchanged, under quiet trading. The market undertone, in general, was soft.

Neutral oils continued to move in but limited volume, with prices remaining unchanged on both the red and pale grades. A little more export inquiry was reported, although buyers were looking for price concessions when placing actual business.

Exports and Imports of Refined Products, Receipts of California Oils in the East

NEW YORK, Feb. 13.—Export prices eased off somewhat last week in the Gulf market, both gasoline and kerosene being affected. U. S. Motor was quoted for prompt and nearby shipment at 3½ cents per gallon, one-eighth under previously prevailing quotations, with 60-62 400 endpoint and 61-63 390 endpoint at 3⅝ cents, one-quarter cent lower. On 64-66 375 endpoint sellers were quoting 3¾ to 3⅞ cents per gallon, the inside price representing a reduction of one-eighth cent. Kerosene was one-quarter cent lower at 4 to 4⅛ cents per gallon for prime white and 4¼ to 4⅜ cents for water white.

A cargo of between 50,000 and 60,000 bbls. of 64-66 375 endpoint was reported sold out of the Gulf during the week for shipment to Australia, at 3⅞ cents per gallon. This cargo represented business normally going to California where, it was understood, the Australian buyer was unable to secure a quotation under 4¼ cents on this business.

Two cargoes of East Texas crude, each cargo running between 70,000 and 80,000 bbls., were reported sold for France, for nearby lifting, at 70 cents per barrel, f.o.b. Gulf. Numerous cargoes of East Texas crude at 67 cents have been reported during the past fortnight, but this appeared to be what the export trade here terms "Broadway oil," cheap oil offered through the export trade with the hope of bringing forth counter bids and offers. A number of additional cargo inquiries for East Texas crude are reported pending. Japan, which has hitherto limited its purchases of American crude to the California market, is now understood to be seeking cheap oil out of the Gulf, but thus far no actual business in this direction has been reported placed.

Imports

Imports of crude and refined petroleum at the principal United States ports during the week ended February 4 totaled 1,027,000 bbls., a daily average of 146,714 bbls., compared with 671,000 bbls., a daily average of 95,857 bbls., for the previous week, and a daily average of 132,786 bbls. for the four weeks ended February 4. Details follow:

At Atlantic Coast Ports—	Bbls. of 42 gals.
Baltimore	81,000
New York	787,000
Philadelphia	159,000
Total	1,027,000
Daily average	146,714

There were no imports at Gulf Coast ports during the week.

The week's imports comprised 740,000 bbls. of crude petroleum and 287,000 bbls. of fuel oil.

Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the port of New York during the three weeks ended February 4 (all figures in gallons unless otherwise noted):

	Week ended		
	Feb. 4	Jan. 28	Jan. 21
Gasoline	85,000	348,000	30,000
Naphtha	380,000	.....	78,000
Kerosene	389,000	16,000	21,000
Fuel and gas oil	1,370,000	5,000	115,000
Lubricating oil	4,022,000	1,935,000	2,240,000
Petroleum, ref'd.	515,000	560,000	195,000
	Pounds		
Petrolatum	.....	5,000	.....
Paraffin wax	2,295,000	2,590,000	2,425,000
Refined	.....	95,000	.....
Scale	115,000	570,000	225,000
Lub. grease	895,000	1,075,000	505,000

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic Coast ports for the week ended February 4 (there were no receipts at the Gulf during the week) totaled 516,000 bbls., a daily average of 73,714 bbls., compared with 383,000 bbls., a daily average of 54,714 bbls., during the previous week, and a daily average of 55,321 bbls. for the four weeks ended February 4. Details follow:

At Atlantic Coast Ports—	Bbls. of 42 gals.
Baltimore	140,000
New York	201,000
Philadelphia	117,000
Others	58,000
Total	516,000
Daily average	73,714

The week's receipts consisted of 231,000 bbls. of gasoline, 78,000 bbls. of kerosene, and 207,000 bbls. of fuel oil.

At the close of the week the following cargoes of California oil were reported afloat for Atlantic and Gulf Coast Ports:

For New York, 96,000 bbls. of kerosene on the Socony-Vacuum tanker Standard Arrow.

For Baltimore, 75,000 bbls. of furnace oil on the Union Oil Co. of California tanker DeRoche; and 105,000 bbls. of furnace oil on the Sun Oil Co. tanker Sun (the latter with optional discharging at Perth Amboy, N. J.).

For Port Arthur, Tex., 75,000 bbls. of fuel oil on the Standard Oil Co. of California tanker District of Columbia.

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils, which became effective June 21, 1932.

Refinery Gasolines

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
*U. S. Motor grades:				
Regular	.02⅝	.02⅝	.02⅝	.02⅝
Premium	.02⅝	.02⅞	.02⅝	.02⅞
Third grade	.02⅛	.02⅜	.02⅛	.02⅜
60-62 400 grades:				
Regular	.02½	.02⅝	.02½	.02¾
Premium	.02¾	.03	.02¾	.03
Third grade	.02¼	.02⅜	.02¼	.02½
64-66 390	.02⅜	.02⅝	.02½	.02¾
64-66 375	.02⅝	.02⅞	.02¾	.03
68-70 350	.02⅞	.03⅛	.03	.03¼
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.02⅜	.02½	.02⅜	.02½
Premium	.02⅝	.02⅞	.02⅝	.02⅞
Third grade	.02⅛	.02¼	.02⅛	.02¼
60-62 400	.02¼	.02½	.02¼	.02½
64-66 390	.02⅜	.02½	.02½	.02¾
64-66 375	.02⅝	.02⅞	.02¾	.03
64-66 330	.02⅞	.03⅛	.03	.03¼
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.02⅝	.02¾	.03	
Premium	.02⅞	.03	.03¼	
Third grade	.02⅜	.02½	.02¾	
60-62 400	.02⅝	.02¾	.03	
†ARKANSAS—				
U. S. Motor grades:				
Regular	.02⅝	.02¾	.03	
Premium	.02⅞	.03	.03¼	
Third grade	.02⅜	.02½	.02¾	
CHICAGO (Based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.02⅜	.02⅝	.02⅜	.02⅝
Premium	.02⅝	.02⅞	.02⅝	.03
Third grade	.02⅛	.02⅜	.02¼	.02⅜
60-62 400	.02½	.02½	.02¼	.02½
64-66 375	.02⅝	.02¾	.02¾	.03
68-70 360	.03¼	.03¼	.03⅛	.03¼
Aviation fighting grade	.03⅜	.03⅝	.03⅜	.03⅝

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular, 57-65 octane number; premium, above 65 octane number; third grade, below 57 octane number.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.04⅝	.04¾	.05	.05¼
60-62 400	.04¼	.05	.05⅛	.05¼
64-66 375	.05	.05½	.05½	.06
68-70 350	.05¼	.05½	.05¾	.06
CALIFORNIA (domestic movement only)—				
54-58 U. S. Motor	.04⅜	.05½	.05¼	.03¼
58-6[illegible] 400	.05¾	.06¾	.05¾	.06¾
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.05½		.05½	
Boston	.05½		.05½	
Baltimore, Md.	.05½		.05½	
Charleston, S. C.	.05½		.05½	
U. S. Motor, 65 octane and above:				
New York (Bayonne)	.05¾		.05¾	.06
Boston	.05¾		.05¾	
Baltimore, Md.	.05¾		.05¾	
Charleston, S. C.	.05¾		.05¾	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.03¾	.04	.03¾	.04
U. S. Motor, below 65 octane number	.03	.03¼	.03¼	.03½

Naphthas

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
50-52 450 (blending)	.02	.02¼	.02	.02¼
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.04⅜	.04⅝	.04⅞	.05
ARKANSAS—				
48-5[illegible] 450 (blending)	.02½	.02¾	.02½	.02¾
CHICAGO (Based on Oklahoma Group 3)—				
50-52 (blending)	.02⅛	.02⅜	.02⅛	.02⅜
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.05½	.05¾	.05½	.05¾
Lacquer diluent, 180 i.b.p.-250 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 140 i.b.p.-20[illegible] e.p.	.08½		.08½	
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05½	.05¾	.05½	.05¾
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.05	.05¼	.05	.05¼
Pet. thinner, 290, 3[illegible]0 i.b.p.-415 e.p., over 83° flash	.04¼	.04½	.04¼	.04½
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05¼	.05½	.05¼	.05½
Petroleum spirits	.04	.04¼	.04	.04¼

Natural Gasolines

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
Grade 18-55	.02½		.02½	
Grade 26-70	.02		.02	
Grade 30-70	.01⅞		.01⅞	
*Low pressure grades:				
15 lb. v.p. (max.)	.02⅝	.02¾	.02⅝	.02¾
11 lb. v.p. (max.)	.02¼	.02⅜	.02¼	.02⅝
NORTH TEXAS—				
Grade 18-55	.02⅜	.02½	.02⅜	
Grade 26-70	.02		.02	
Grade 30-70	.01⅞		.01⅞	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.02⅝		.02⅝	
11 lb. v.p. (max.)	.02¼		.02¼	
NORTH LOUISIANA—				
Grade 26-70	.02¼	.02⅜	.02¼	.02⅜
CALIFORNIA—				
75-78 375	.04¼	.05¼	.04½	.05¼

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
41-43	.02¾	.03	.02¾	.03
42-44	.02⅞	.03⅛	.02⅞	.03⅛
NORTH TEXAS—				
40-41	.02⅝		.02⅝	
41-43	.02⅝	.02¾	.02⅝	.03
†NORTH LOUISIANA—				
41-43	.03½		.03½	
42-44	.03¾	.03¾	.03¾	
†ARKANSAS—				
41-43	.03½		.03½	.03¾
PENNSYLVANIA (inland refineries)—				
45	.04½	.04¾	.04½	.04¾
46	.04½	.04¾	.04⅝	.04¾
47	.04¼	.05	.04¾	.05
CHICAGO (Based on Oklahoma Group 3)—				
41-43	.02⅝	.02¾	.02⅝	.02¾
42-44	.02¾	.02⅞	.02¾	.02⅞
*CALIFORNIA—				
38-40 high burning test	.03½	.04½	.03½	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.05½	.06
GULF COAST (domestic)—				
41-43 water white	.04¼	.04½	.04¼	.04½

*For Pacific Coast Consumption.

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
32-36 straw	.02½	.02⅝	.02⅝	.02⅝
36-38 straw	.02⅜	.02⅝	.02⅜	.02⅝
38-40 straw	.02⅜	.02⅝	.02⅜	.02⅝
39-41 prime	.02⅝	.02⅞	.02⅝	.02⅞
NORTH TEXAS—				
38-40 straw	.02¼	.02½	.02¼	.02½
†NORTH LOUISIANA—				
36-40	.02¾	.03	.02¾	.03
†ARKANSAS—				
32-36	.02¾	.03	.02¾	.03
CHICAGO (Based on Oklahoma Group 3)—				
32-36 straw	.02½	.02¾	.02½	.02⅝
38-40 straw	.02½	.02¾	.02½	.02¾
38-40 prime white	.02½	.02¾	.02½	.02¾
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03½	.04	.03½	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	
21 (industrial)	.03½		.03½	

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
32-36 (G.O.) cracking stock	.01⅜	.01½	.01½	.01¾
U.G.I. (G.O.)	.01½	.01⅝	.01½	.01¾
32-36 zero to 15 (G.O.) high flash	.02	.02¼	.02	.02¼
28-30, zero to 10	.85	1.00	.85	1.00
26-30, zero to 10	.70	.80	.75	.85
24-26	.50	.60	.60	.65
20-22	.45	.50	.50	.55
Below 16	.35	.40	.37½	.45
NORTH TEXAS—				
32-36 (G.O.) industrial	.01¼	.01½	.01⅜	.01½
22-26	.40	.50	.45	.50
Be.ow 20	.35	.40	.40	.45
NORTH LOUISIANA—				
32-36 (G.O.) zero	.02½	.02¾	.02½	.02¾
14-16	.35		.35	
†ARKANSAS—				
30-32 (G.O.) zero high flash	.02½	.02⅝	.02½	.02⅝
14-16	.35	.40	.35	.40
CHICAGO (Based on Oklahoma Group 3)—				
32-36 (G.O.) industrial	.01⅛	.01⅞	.01½	.01⅝
28-30 (zero)	.95	.100	.90	.95½
26-28 (zero)	.80	.85	.75	.80
22-23 (zero)	.65	.70	.60	.65
18-22 (zero)	.52½	.57½	.50	.55
Below 18	.45	.50	.45	.50
PENNSYLVANIA (inland refineries)—				
36-40	.03	.03¼	.03	.03¼

Note: Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.90	1.00	.85	1.00
27 p.us Diesel	.90	1.00	.85	1.00
15-19 bunker (at tidewater)	.55	.65	.55	.65
15-19 (cargo lots)	.47½	.60	.47½	.60
15-19 (tank cars)	.35	.55	.35	.55
GULF COAST—				
28-30 (G.O.)	.03⅛	.03¼	.03¼	
28-30 Diesel	1.50		1.50	1.55
Bunker C (bulk cargoes)	.50		.50	
Bunker C (bunkers)	.60		.60	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.03¾	.04	.03¾	.04
*28-30 Diesel	1.65		1.65	
26-30 Diesel (tank cars)	.04		.04	
†Bunker C	.75		.75	

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	4.50	4.50
Still runs	5.50	5.50
Lump and egg	6.50	6.50

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
18 -3	.07½	.07¾	.07½	.07⅝
180-4	.07	.07¼	.07	.07¼
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09¼	.09½	.09¼	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
300-3½	.11¾	.12	.11¾	.12
350-3½	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4½	.13	.13½	.13	.13½
100-2 paraffin oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07½	.07¾	.07½	.07¾
200-4	.07¼	.07½	.07¼	.07½
240-3	.09¼	.09½	.09¼	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.11¼	.12	.11¼	.12
10 pour test	.10¾	.11¼	.10¾	.11¼
15 pour test	.09	.09½	.09¼	.10
25 pour test	.08	.08¼	.08¼	.09
180 vis., No. 3, 25 pour test	.10¾	.11¼	.10¾	.11¾
200 vis., No. 3:				
Zero pour test	.15½	.16	.16½	.17
10 pour test	.14½	.15	.14½	.16
15 pour test	.13	.14	.12½	.14
25 pour test	.12½	.13	.11½	.13½
GULF COAST—				
Pale Oils:				
100-2-2½	.05¼	.05½	.05¼	.05½
200-3	.06½		.06½	

300-3	.07¼	.07½	.07¼	.07½
500-3½	.09¼	.09½	.09¼	.09½
750-3½	.10¼	.10½	.10¼	.10½
1,200-3½	.12½		.12½	
2,000-4	.13½	.14	.13½	.14
Red Oils:				
200-5-6	.05¼	.05½	.05¼	.05½
300-5-6	.06½	.06¾	.06½	.06¾
500-5-6	.07½	.07¾	.07½	.07¾
1,200-5-6	.10½	.11	.10½	.11
2,000-6 plus	.12¼	.12½	.12¼	.12½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.10	.09	.10
200-2½-3	.10	.11	.10	.11
300-3-3½	.11	.11½	.11	.11½
350-3-4	.11½	.11¾	.11½	.11¾
400-3-4	.11¾	.12	.11¾	.12
450-3-4	.12	.12¼	.12	.12¼
550-3-4	.12¼	.12¾	.12¼	.12¾
Red Oils:				
200-4-5	.08¾	.09¾	.08¾	.09¼
300-5-6	.10	.10½	.10	.10½
350-5-6	.10½	.11	.10½	.11
400-5-6	.11	.11½	.11	.11½
450-5-6	.11½	.11¾	.11½	.11¾
500-5-6	.11¾	.12	.11¾	.12
600-5-6½	.12	.12¼	.12	.12¼
70°-6½ plus	.12¼	.12½	.12¼	.12½
750-6½ p'us	.12½	.12¾	.12½	.12¾
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
630 light green	.07½	.07¾	*.07½	.07¾
600 light green S.R.	.04½	.05	*.04½	.05
600 dark green S.R.	.03½	.04	*.03½	.04
Bright Stocks:				
190-200 D	.16		*.16	
150-160 D, 0-10	.14⅛		*.14⅛	
150-160 D, 10-25	.13⅝		*.13⅝	
150-160 D, 25-40	.13⅛		*.13⅛	
150-160 E	.13⅛		*.13⅛	

*Prices published in Feb. 9 issue for Feb. 7 incorrect.

PENNSYLVANIA—				
600 S.R.	.08	.08¼	.08½	.09
650 S.R.	.11	.11½	.11½	.12
600 Pennsylvania flash	.12½	.13	.12¾	.13
630 D filtered	.17½	.18	.17½	.18¼
600 E filtered	.12½	.12¾	.12¾	.13½
Pennsylvania Grade bright stock: Bright Stock, No. 8 color, 145-50 vis. 210-540-550 flash:				
10 pour test	.20	.21	*.20	.21
15 pour test	.17⅛	.18½	*.17⅛	.18½
25 pour test	.16½	.17	*.16½	.17

*Prices published in Feb. 9 issue for Feb. 7 incorrect.

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Feb. 14		Feb. 7	
124-126 white crude scale	.01⅝	.01¾	.01¾	.01⅞
PENNSYLVANIA—				
122-124	.02		.02⅛	
124-126	.02⅛	.02¼	.02⅛	.02¼
NEW YORK (Bayonne, N. J.)—				
120-122	.02½		.02⅝	
125-127	.02⅞		.02¾	
130-132	.03		.03⅛	
133-135	.03⅞		.04	
135-137	.04		.04¼	
Petrolatum in barrels in car'oad lots:				
Dark green	.01¾		.01¾	
Amber	.02⅛		.02⅛	
Extra amber	.02½		.02½	
Lily white	.05½		.05½	
Snow white	.06½		.06½	
Cream	.04⅞		.04⅞	

Export Prices

GASOLINE

GULF COAST—	Geb. 14		Feb. 7	
U. S. Motor	.03½		.03⅝	
60-62 400	.03⅝		.03⅞	
61-63 390	.03⅝		.03⅞	
64-66 375	.03¾	.03⅞	.03⅞	.04
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.03¾	.04¼	.03¾	.04¼
U. S. Motor, 65 octane num.	.04¾	.05	.04¾	.05
U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-60 400 endpoint gasoline	.04¼	.05	.04¼	.05

KEROSENE

GULF COAST—				
41-43 prime white	.04	.04⅛	.04¼	.04⅜
41 water white	.04¼	.04⅜	.04½	.04⅝
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼

LUBRICANTS

NEW YORK (f.a.s. in bbls.)—		
600 filtered	.22	.22
6 0 Warren E	.18½	.19
600 S.R. unfiltered	.15	.15
650 S.R. unfiltered	.17	.17
600 flash S.R.	.18½	.18½
630 flash S.R.	.23	.23½
Bright stock, No. 8 color	.23½	.23½
Bright stock, No. 6½ color, dil.	.24	.24

NEUTRALS

NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.09¾		.09¾	
180-3½	.09½		.09½	
100-2¼	.05		.05	
Red Engine Oil, Bulk (vis. at 100):				
3 0-6½	.09½		.09½	
250-6	.08¾	.09	.08¾	.09
200-6	.08¼		.08¼	

Crude Oil Prices

Oklahoma, Kansas, North and East Central Texas

East Texas (see note) ..... $ .50
Corsicana, heavy (Jan. 20, 1933)* ..... .30
Other fields ..... See gravity table

East Texas posted by Tide Water Oil Co., January 18; Sinclair Prairie Oil Marketing Co., January 18; The Texas Company, January 20; Magnolia Petroleum Co., January 20; Shell Petroleum Corp. January 19; Panola Pipe Line Co., January 20; Humble Oil & Refining Co., January 20.
*Magnolia Petroleum Co.

West Texas

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos Counties ..... See note below
Lea County, N. Mex. .....
..... See Rocky Mountain table
Toborg, Pecos County* ..... $ .40

Note—Crane, Upton, etc., effective January 19 by The Texas Company, 30 cents; followed by Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co., on January 20, and by other purchasers.
*Shell Petroleum Corp., January 19, 1933.

Texas Panhandle

Gray County, Wheeler County and Carson-Hutchinson Counties.... See gravity table

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers .....
..... See gravity table
Jennings, La. (Jan. 20, 1933)* ..... $ .35
Cameron Meadows, La. (Jan. 20, 1933)†
..... Below 20 gravity 22 cents, differential 2 cents per degree beginning with 21-21.9 at 26 cents with 40 gravity and over at 52 cents.
Refugio, light ..... See gravity table
Refugio, heavy (Jan. 20, 1933)‡ ..... .45
Markham§..See Gulf Coast gravity schedule
High Island¶ .....
..... See Gulf Coast gravity schedule
Conroe ..... See note

*Gulf Refining Co. †Magnolia Petroleum Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.
Note—In the Conroe Field, effective January 19, Tide Water Oil Co. posted as follows: 35-35.9 degrees, 59 cents, with 1 cent added for each degree upward to 40 degrees and over, at 64 cents; January 20, Humble Oil & Refining Co. posted 35-35.9 degrees, 54 cents, with 2 cents added for each degree upward to 40 degrees and over at 64 cents.

South Central and Southwest Texas

Darst Creek ..... See note below
Luling (Jan. 20, 1933) ..... $ .30
Mirando (Jan. 20, 1933) ..... .35
Pettus (Jan. 20, 1933) ..... .55
Salt Flat (Jan. 20, 1933) ..... .40
Lytton Springs (Jan. 20, 1933) ..... .45

Note—The Texas Company, January 19, followed by Humble Oil & Refining Co., Magnolia Petroleum Co. and Gulf Pipe Line Co., January 20. Magnolia Petroleum Co. in Luling; Magnolia, Humble and Gulf companies in Refugio crude; Humble and Gulf companies in Pettus; Humble and Gulf companies in Salt Flat; Magnolia Petroleum Co. in Lytton Springs. In Darst Creek, effective January 19, The Texas Company, 35 cents; effective January 20, Magnolia Petroleum Co., 35 cents; Humble Oil & Refining Co., 40 cents; Gulf Pipe Line Co., 40 cents.

North Louisiana and Arkansas

Smackover, Ark. (all grades) .....
..... See note below
Urania, La. (Jan. 20, 1933) ..... $ .25
East El Dorado, Ark. (Jan. 20, 1933)
..... See note below
Other fields ..... See gravity table

Note—Smackover, all grades, effective January 19 by The Texas Company, 30 cents; January 20, Standard Oil Co. of Louisiana, 20 cents, Magnolia Petroleum Co. 20 cents, Gulf Refining Co. 30 cents, Louisiana Oil Refining Corp. 25 cents. Urania Field posted by Louisiana Oil Refining Co. and H. L. Hunt, Inc., East El Dorado, effective January 20, Magnolia Petroleum Co. 20 cents, Gulf Refining Co. 30 cents.

Rocky Mountain States

OHIO OIL CO.-STANOLIND OIL & GAS CO.
Iles, light (Jan. 18, 1933) ..... $ .40
Iles, heavy (Jan. 18, 1933) ..... .34
Fort Collins, Wellington and Greasewood, Colo., are on contract basis.
Florence (Jan. 18, 1933) ..... .32
Dutton Creek, Wyo. (Jan. 18, 1933) .. .34
Rock Creek, Wyo. (Jan. 24, 1933) ..... .46
Frannie, light (Jan. 18, 1933) ..... .31
Frannie, heavy (Jan. 18, 1933) ..... .20
Salt Creek .....
See Stanolind Mid-Continent price schedule
LaBarge .....Mid-Continent gravity scale
Big Muddy (Jan. 24, 1933) ..... .50
Grass Creek (Jan. 18, 1933) ..... .62
Grass Creek heavy (Dec. 15, 1932) .. .45
Elk Basin, light (Jan. 18, 1933) ..... .62
Lance Creek (Dec. 16, 1932) ..... .92
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 3, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Jan. 18, 1933) ..... .52
Lost Soldier (Apr. 12, 1932) ..... .80
Hamilton Dome (Dec. 16, 1932) ..... .25
Torchlight (Jan. 18, 1933) ..... .62
Greybull (Jan. 18, 1932) ..... .62
Cat Creek (Jan. 18, 1933) ..... .62
Pondera (Nov. 7, 1932) ..... .60
Sunburst, Mont. (Nov. 7, 1932) ..... .75
Hogback, N. Mex. (Jan. 18, 1933) .... .65
Lea County, N. Mex. (Jan. 20, 1933) .. .30
Maljamar (Jan. 20, 1933) ..... .25
Artesia-Jackson (Jan. 20, 1933) ..... .30

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback, and Iles by Stanolind Oil & Gas Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective January 20, posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

Eastern States

JOSEPH SEEP PURCHASING AGENCY
(Effective January 21, 1933)
Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $1.47

(Continued on Page 29)

Crude Oil Gravity Table

Degrees gravity—	Oklahoma, Kansas, North Texas, East Central and Central Texas 1	North Louisiana and Arkansas 2	North Louisiana and Arkansas 3	Gray County, Texas 4	Gray County, Texas 5	Hutchinson, Carson and Moore Counties, Texas 6	Hutchinson, Carson and Moore Counties, Texas 7	Gulf Coast Texas and Louisiana 8	Gulf Coast Texas and Louisiana 9	Salt Creek, Wyoming 10
Below 20	...	...	...	...	...	...	...	.55	.32	...
20-20.9	...	...	...	...	...	...	...	.55	.34	...
21-21.9	...	...	...	...	...	...	...	.55	.36	...
22-22.9	...	...	...	...	...	...	...	.56	.38	...
23-23.9	...	...	...	...	...	...	...	.57	.40	...
24-24.9	...	...	...	...	...	...	...	.58	.42	...
Below 25	...	...	...	...	...	...	...	...	...	...
25-25.9	...	...	...	...	...	...	...	.59	.44	...
26-26.9	...	...	...	...	...	...	...	.60	.46	...
27-27.9	...	...	...	...	...	...	...	.61	.48	...
28-28.9	...	...	...	...	...	...	...	.62	.50	...
Below 29	.28	.28	.20	...	...	...	...	...	...	.28
29-29.9	.30	.30	.22	...	...	...	...	.63	.52	.30
30-30.9	.32	.32	.24	...	...	...	...	.64	.54	.32
31-31.9	.34	.34	.26	...	...	...	...	.65	.56	.34
32-32.9	.36	.36	.28	...	...	...	...	.66	.58	.36
33-33.9	.38	.38	.30	...	...	...	...	.67	.60	.38
34-34.9	.40	.40	.32	.36	.34	.31	.29	.68	.62	.40
35-35.9	.42	.42	.34	.38	.36	.33	.31	.69	.62	.42
36-36.9	.44	.44	.36	.40	.38	.35	.33	.70	.62	.44
37-37.9	.46	.46	.38	.42	.40	.37	.35	.71	.62	.46
38-38.9	.48	.48	.40	.44	.42	.39	.37	.72	.62	.48
39-39.9	.50	.50	.42	.46	.44	.41	.39	.73	.62	.50
40 plus	.52	.52	.44	.48	.46	.43	.41	.74	.62	.52

Note—Effective January 20, the Standard Oil Co. of Louisiana posted the following prices in North Louisiana and Arkansas: Caddo, below 29 gravity, 20 cents; 40 gravity and above, 44 cents. Sabine and De Soto, below 29 gravity, 25 cents; 40 gravity and above, 49 cents. Homer, below 29 gravity, 28 cents; 40 gravity and above, 52 cents. Sarepta and Cartersville, below 29 gravity, 17 cents; 40 gravity and above, 41 cents. El Dorado, below 29 gravity, 25 cents; 40 gravity and above, 49 cents. Haynesville, below 29 gravity, 19 cents; 40 gravity and above, 43 cents. The above all carry 2 cents differential for each degree in gravity. Smackover, all grades, 20 cents.

Column 1—Effective January 18, Stanolind Crude Oil Purchasing Co., Sinclair Prairie Oil Marketing Co.; January 19, The Texas Company; January 20, Magnolia Petroleum Co. (starting at below 25 degrees, 20 cents, with 2 cents added for each degree upward); January 20, Carter Oil Co. in Oklahoma and Kansas and Humble Oil & Refining Co. in North Central and East Central Texas; January 20, Gypsy Oil Co. in Oklahoma and Kansas and Gulf Production Co. in North, Central and East Central Texas; January 18, Globe Oil & Refining Co. and Tide Water Oil Co. in Kansas and Oklahoma; January 19, Empire Pipe Line Co., Shell Petroleum Corp.; January 18, in Oklahoma, Deep Rock Oil & Refining Co., Barnsdall Refineries, Inc., Continental Oil Co., Bell Oil & Gas Co., Tide Water Oil Co., Champlin Refining Co., Anderson-Prichard Corp., Cushing Refining Co., Eason Oil Co., Johnson Oil Refining Co., Mid-Continent Petroleum Corp., Pepper Gasoline Co., Sunray Oil Co., Yale Oil Corp., Twin State Oil Co., Rock Island Refining Co.; January 20, Phiitex Oil Co. and Pure Oil Co.; Oklahoma and North Texas, January 18, Continental Oil Co.; Kansas, January 18, Eldorado Refining Co., Vickers Petroleum Co., Skelly Oil Co. (starting below 25 degrees, 20 cents, with 2 cents added for each degree upward); January 19, White Eagle Oil Corp.

Column 2—The Texas Company, January 19; Louisiana Oil Refining Co., January 20; Gulf Refining Co., January 20 (starting at below 25 degrees, 20 cents, with 2 cents added for each degree upward). For Standard Oil Co. of Louisiana schedule see note below price table.

Column 3—Magnolia Petroleum Co., January 20.

Column 4—The Texas Company, January 19.

Column 5—Effective January 20, Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co. Effective January 20, Phil Tex Oil Co. posted below 36 degrees, 30 cents, with 2 cents added for each degree up to 40 and above at 40 cents.

Column 6—The Texas Company, January 19.

Column 7—Effective January 20, Humble Oil & Refining Co., Magnolia Petroleum Co., Continental Oil Co. and Gulf Pipe Line Co. Effective January 20, the Phil Tex Oil Co. posted below 36 degrees, 20 cents, with 2 cents added for each degree upward to 40 degrees and above, 30 cents.

Column 8—The Texas Company, January 19.

Column 9—The Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co. Sun Oil Co., January 20.

Column 10—Stanolind Oil & Gas Co., January 18.

(California Crude Oil Prices on Page 29)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

February 15, 1933

Taxes

The gasoline quotations given in the following tables include the 1-cent Federal tax as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1.5 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 3 cents above the service station price for the regular grade.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	14.1	14.1	4.0	10.0
Decatur, Ill.	15.6	15.6	4.0	10.1
E. St. Louis	14.9	13.9	4.0	9.3
Joliet	15.6	14.6	4.0	8.6
Peoria	15.6	15.6	4.0	10.1
Quincy	15.4	15.4	4.0	9.9
Davenport, Ia.	15.7	15.7	4.0	10.4
Des Moines	15.7	15.7	4.0	8.0
Mason City	15.7	15.7	4.0	9.0
Sioux City	15.3	15.3	4.0	10.0
Duluth, Minn.	16.7	16.7	4.0	11.0
Mankato	16.3	16.3	4.0	8.1
Minneapolis	15.4	14.4	4.0	11.0
LaCrosse, Wis.	17.4	17.4	5.0	11.1
Green Bay	16.8	16.8	5.0	†10.5
Milwaukee	16.3	16.3	5.0	10.0
Madison	16.5	16.5	5.0	10.2
Detroit, Mich.	15.0	15.0	4.0	9.0
Grand Rapids	15.5	15.5	4.0	10.3
Saginaw	15.8	15.8	4.0	10.8
Evansville, Ind.	16.2	16.2	5.0	†13.9
Indianapolis	16.4	16.4	5.0	†14.1
South Bend	16.7	16.7	5.0	†14.4
Fargo, N. D.	18.1	18.1	4.0	13.0
Huron, S. D.	17.5	17.5	5.0	10.0
Sioux Falls	17.0	17.0	5.0	10.0
K. C., Mo.*	14.1	14.1	4.0	8.7
Springfield*	15.0	15.0	4.0	8.0
St. Louis	12.0	11.5	3.5	9.4
St. Joseph*	13.0	10.9	4.0	7.5
Wichita, Kans.	13.9	13.9	4.0	7.0
Bartlesville, Ok.	13.5	13.0	5.0	8.0

*State tax 3 cents, 1-cent city tax and 1-cent Federal tax.

†Includes 4-cent tax. Buyers of kerosene not used as motor fuel can secure refund of tax.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 2 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

Stanolind Furnace Oil in Chicago

Effective November 1, 1932, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. sere), 100 gallons or more, 7 cents; No. 2 (30-34 stw. sere), 150 gallons or more, 6¼ cents; No. 3 (32-36 sere), 400 gallons or more 5.75 cents; No. 4 (12-16 sere), 400 gallons or more, 4.75 cents. Viscosity of No. 4, 98-115 at 100° F.

Fuel Oils
Chicago Oil Heat Institute Prices

Spot market prices on 350 gallons or over deliveries, and top prices on contracts, respectively: 35-40, 7 and 8 cents; 32-34 light, 6¾ and 7¾ cents; 32-34 dark, 6¼ and 7¼ cents; 28-30, 5¾ and 6¾ cents; 24-26, 5 and 6 cents; 18-22, 4¾ and 5¾ cents. On deliveries of less than 350 gallons the spot price is one-half cent higher.

Southwestern District
MAGNOLIA PETROLEUM CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	12.5	15.0	5.0	7.0
Fort Worth	12.5	15.0	5.0	7.0
Houston	12.5	15.0	5.0	8.0
San Antonio	12.5	15.0	5.0	8.0
El Paso	12.5	15.0	5.0	10.0
Texarkana	*15.0	15.0	5.0	†11.0
Muskogee, Okla.	11.5	14.0	5.0	8.0
Okla. City	11.5	14.0	5.0	8.0
Tulsa	12.5	15.0	5.0	8.0
Ft. Smith, Ark.	*13.0	13.0	5.0	†10.0
Little Rock	15.0	15.0	7.0	†10.0

*Less 2½ cents to dealers. †Less 2 cents to dealers.

Southern District
STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta Ga.	18.0	18.0	7.0	12.0
Augusta	19.0	19.0	7.0	11.0
Macon	19.0	19.0	7.0	11.0
Savannah	19.0	19.0	7.0	12.5
Birm'ham, Ala.	19.0	19.0	8.0	12.0
Mobile	20.0	20.0	8.0	10.0
Montgomery	21.0	21.0	8.0	16.0
Jackson, Miss.	18.0	18.0	7.0	11.0
Vicksburg	19.0	19.0	7.0	12.0
Jack'ville, Fla.	21.0	21.0	8.0	11.0
Miami	21.0	21.0	8.0	12.5
Pensacola	18.0	18.0	8.0	12.0
Tampa	19.0	19.0	8.0	13.0
Lexington, Ky.	18.5	18.5	6.0	11.5
Covington	17.0	17.0	6.0	11.5
Louisville	17.0	17.0	6.0	10.0
Paducah	19.0	19.0	6.0	10.0

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

Rocky Mountain District
CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	14.0	17.0	5.0	12.5
Pueblo	14.0	17.0	5.0	12.5
Grand Jnctn.	18.0	21.0	5.0	14.5
Casper, Wyo.	16.0	19.0	5.0	10.0
Cheyenne	14.0	17.0	5.0	11.5
Butte, Mont.	20.0	23.0	6.0	17.0
Billings	21.0	24.0	6.0	15.5
Great Falls	21.0	24.0	6.0	17.0
Helena	21.0	24.0	6.0	17.0
Salt Lake, Utah	17.0	20.0	5.0	16.0
Albu'que, N. M.	14.0	17.0	*7.0	14.0
Boise, Idaho	20.5	23.5	6.0	15.0
Twin Falls	20.5	23.5	6.0	18.0

*One-cent city tax.

Central South District
STANDARD OIL CO. (LOUISIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	13.0	15.0	*7.0	†11.0
Baton Rouge	14.5	14.5	6.0	†10.0
Alexandria	13.0	13.0	7.0	†8.5
Lafayette	14.5	14.5	7.0	†10.0
Lake Charles	14.5	14.5	7.0	†10.0
Shreveport	13.5	13.5	6.0	†11.0
Knoxville, Tenn.	17.0	17.0	8.0	12.5
Memphis	16.5	16.5	8.0	10.0
Chattanooga	16.5	16.5	8.0	11.0
Nashville	17.5	17.5	8.0	13.0
Bristol	18.0	18.0	8.0	12.0
Lt. Rock, Ark.	15.0	15.0	8.0	10.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Two-cent discount off kerosene tank wagon price and 2½ cents off gasoline tank wagon price to dealer and commercial accounts.

Ohio
STANDARD OIL CO. (OHIO)*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points	13.5	14.0	5.0	*13.0

*Two cents off on gasoline tank wagon to dealers and commercial accounts; 2½ cents off tank wagon on kerosene to dealers.

Nebraska
STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	16.3	17.3	5.0	9.0
McCook	17.0	17.0	5.0	11.75
Norfolk	16.3	17.3	5.0	10.75
N. Platte	17.0	17.0	5.0	9.0
Scottsbluff	17.3	18.0	5.0	10.0

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

New York and Part of New England District
STANDARD OIL CO. (NEW YORK)*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	15.0	16.0	4.0	9.0
New York	13.5	13.5	4.0	9.5
Buffalo	15.0	16.0	4.0	9.0
Rochester	15.5	16.5	4.0	9.0
Syracuse	14.0	15.0	4.0	9.5
Boston, Mass.	13.5	14.5	4.0	8.0
Augusta, Me.	17.5	18.5	5.0	9.0
Manch'tr, N. H.	17.5	18.5	5.0	8.0
Burlington, Vt.	18.0	19.0	5.0	8.5

*Discount schedule to commercial accounts are as follows: At service stations, 1 cent per gallon; tank wagon deliveries up to 20,000 gallons monthly, 2 cents per gallon; 20,000 to 100,000 gallons, 2½ cents; 100,000 to 300,000 gallons, 3 cents; 300,000 gallons and up, 3½ cents.

Atlantic Coast District
STANDARD OIL CO. (NEW JERSEY)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	14.9	15.9	4.0	11.2
Newark	13.3	14.3	4.0	8.5
Annapolis, Md.	14.6	15.6	5.0	9.0
Baltimore	14.0	15.0	5.0	8.0
Cumberland	15.5	16.5	5.0	11.7
Wash'g'n, D. C.	12.3	13.3	3.0	10.0
Danville, Va.	16.7	17.7	6.0	11.9
Norfolk	15.1	16.1	6.0	10.8
Petersburg	16.2	17.2	6.0	11.4
Richmond	15.5	16.5	6.0	10.7
Roanoke	16.7	17.7	6.0	11.9
Charl'n, W. Va.	15.4	16.4	5.0	11.8
Parkersburg	14.0	15.0	5.0	10.2
Wheeling	15.0	16.0	5.0	11.2
Charlotte, N. C.	17.3	17.3	7.0	12.5
Hickory	18.5	19.5	7.0	13.7
Mt. Airy	18.6	19.6	7.0	13.8
Raleigh	18.1	19.1	7.0	13.3
Salisbury	18.4	19.4	7.0	13.6
Charleston, S.C.	16.1	17.1	7.0	10.3
Columbia	18.0	19.0	7.0	13.2
Spartanburg	15.5	16.5	7.0	13.5

Two cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and Baltimore, Md., where discount is 3 cents. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey.

Naphtha

	Tank	
	Wagon	Car
Oleum spirits	10.7	6.23
V.M.&P. naphtha	12.7	7.23
Cleaners' naphtha	15.3	9.23
Stanisol	15.3	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Canada
IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Hamilton, Ont.	22.5	25.5	6.0	15.5
Toronto, Ont.	23.5	25.5	6.0	16.5
Brandon, Man.	29.0	32.5	7.0	17.5
Winnipeg, Man.	26.0	29.5	7.0	17.5
Regina, Sask.	29.0	33.0	6.0	21.5
Saskatoon, Sask.	31.0	35.0	6.0	23.5
Edmonton, Alta.	29.0	32.5	5.0	22.5
Calgary, Alta.	25.5	29.0	5.0	10.0
Vancouver, B.C.	26.5	29.5	7.0	22.5
Montreal, Que.	22.0	25.0	6.0	15.0
St. Johns, N.B.	24.5	28.5	7.0	20.5
Halifax, N.S.	23.5	27.5	6.0	20.5

Pacific Coast Territory
STANDARD OIL CO. OF CALIFORNIA*

	Gasoline			Kero.
	Tank truck†	Posted retail	Incl'ds tax of	tank wagon
Fresno	19.0	18.0	4.0	14.0
San Francisco	19.0	18.0	4.0	12.5
Los Angeles	16.5	15.5	4.0	12.5
Reno, Nev.	23.0	22.0	5.0	15.5
Portland, Ore.	16.4	15.4	5.0	13.5
Seattle, Wash.	17.4	16.4	6.0	13.5
Tacoma	17.4	16.4	6.0	13.5
Spokane	20.9	19.9	6.0	18.0
Phoenix, Ariz.	18.0	20.0	6.0	†16.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Pennsylvania-Delaware and Part of New England
ATLANTIC REFINING CO.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	13.0	14.0	4.0	9.0
Philadelphia	13.0	13.0	4.0	9.0
Scranton	13.5	14.5	4.0	9.0
Allentown	13.5	14.5	4.0	9.0
Altoona	13.5	14.5	4.0	9.0
Erie	13.0	14.0	4.0	9.0
Dover, Del.	13.5	14.5	4.0	9.0
Wilmington	13.0	14.0	4.0	9.0
Springf'd, Mass.	14.5	14.5	4.0	8.0
Worcester	14.5	15.5	4.0	8.0
Boston	14.5	15.5	4.0	8.0
Providence, R.I.	12.5	13.5	3.0	8.0
Hartford, Conn.	12.5	12.5	3.0	8.0
New Haven	12.5	12.5	3.0	8.0

Discount schedule effective November 1, 1932. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 300,000 and 3½ cents on more than 300,000 gallons.

TANK WAGON CHANGES

(Regular Grade Gasolines and Kerosene)

Atlantic Refining Co., effective February 8, reduced gasoline tank wagon and service station prices 1 to 2 cents a gallon in Pennsylvania and Delaware; effective February 1, reduced gasoline service station price 1 cent at Springfield, Mass.; effective February 4, reduced gasoline tank wagon 1 cent and service station 2 cents at Hartford and New Haven, Conn.

Standard Oil Co. (Indiana), effective February 6, reduced kerosene tank wagon price from 11.8 to 10 cents at Huron, S. Dak.; effective February 1, gasoline tank wagon and service station prices reduced one-half cent at St. Louis due to reduction of one-half cent in city tax; effective February 1, gasoline service station price advanced 1 cent at St. Joseph, Mo.

Standard Oil Co. of Louisiana, effective February 3, reduced kerosene tank wagon prices 1 cent at Baton Rouge, La.

Standard Oil Co. (Kentucky), effective February 6, advanced kerosene tank wagon prices from 14 to 16 cents and advanced gasoline tank wagon and service station prices from 19 to 21 cents.

Standard Oil Co. of New Jersey, effective February 6, reduced gasoline tank wagon 1 cent and service station prices 2 cents at Charlotte, N. C.

Standard Oil Co. of California and Standard Stations, Inc., reduced gasoline tank truck and service station prices 1 cent in Los Angeles.

INCREASE IN CAR SALES

For the first time since August, 1931, the passenger car and truck output of members of the National Automobile Chamber of Commerce exceeded that of the corresponding month in the preceding year, according to the preliminary estimate on January production released by the chamber Thursday, February 9.

The January output of chamber members was estimated at 115,915 units, which was 5 per cent over the production for January, 1932, and 38 per cent above the output for last December. January production exceeded the output for every month last year except March and April, the chamber reported.

The operations of only one major producer are not included in the chamber figures, which are based on reports of factory shipments to dealers.

SELL ALCOHOL-GASOLINE BLEND

NEW YORK, Feb. 11.—Following the action of the Brazilian government in opening four retail filling stations at Rio de Janeiro, marketing a motor fuel blend composed of 40 per cent of gasoline and 60 per cent of alcohol, major oil companies have likewise started marketing a similar blend to compete with the government product.

At last reports, the marketing of the blended product was being confined to the Rio de Janeiro and Pernambuco markets, with straight gasoline distributed in the remainder of the country.

Shaw Estimates 1933 Crude Oil Production in the U. S.

(Continued from Page 11)

fields such as Kettleman Hills, Ritz-Canton, Oklahoma City, Conroe, Rabbs Ridge, Van, East Texas and Yates could be opened to much greater production than assumed in the estimate. There may be other flush fields discovered during the year that will add to the production from flush fields, but it is also reasonable to assume that some of the flush fields will not produce as much as the estimate calls for.

A similar estimate of flush production made for the year 1932 was 338,650,000 bbls., but the fields included in the list actually produced only 285,792,000 bbls. This was due largely to additional curtailment during the course of the year at the Kettleman Hills, Hobbs, Oklahoma City, Van, East Texas and Yates Fields.

Rapid Decline in Flush Fields

Decline in all flush fields is very rapid, and unless this is held constantly in mind the producer is not likely to realize that this decline is taking place until he opens his wells with the expectation of increasing his production by a large percentage only to find that after a temporary increase that takes place immediately after the wells are opened up, there is a severe decline, and continued rate of high production becomes impossible. In most flush fields, the operator is usually producing at a rate that is closer to the maximum capacity than is generally realized.

The fields included in the settled production can be increased in only a few cases. Probably Bradford, Pennsylvania, and Kern River, Coalinga and Midway-Sunset in California are the most important of such fields. However, production of heavy oil from the Kern River and Coalinga Fields is not likely to be much increased until potential capacity of light oils has dropped to such an extent that the price has advanced considerably.

There are known salt domes on the Gulf Coast that can be depended on to become productive when there is need for the oil and when the price justifies the deep drilling required. There are some large tracts of lands owned by large oil companies which are being developed as slowly as drilling obligations will permit. These areas contain probable reserves that will be developed more rapidly when the price of oil justifies the expense.

More oil pools will unquestionably be found, but it should not be assumed that the discovery of these pools will necessarily take place at the instant it is found that consumption is closely approaching maximum capacity. Depleted oil fields are not being replenished. Every pool that becomes exhausted is one less field from which production can be obtained.

We are now faced with a greater productive capacity than is needed for immediate consumption, but this situation can change almost before the oil industry realizes that such a change has taken place. It cannot be assumed that every wildcat means the discovery of a new oil pool as has been shown by the experience of many a wildcatter drilling at the present time. The question of opening up a large new oil field is so alluring that even the very low price of oil now obtaining is not eliminating wildcat operations, but most of these wildcat operations are failing to discover new fields. In the course of time we are likely to see more clearly the effect of decreased drilling on oil reserves to which attention was clearly directed by Wallace E. Pratt in 1931.

The status of production and consumption of oil and oil products in the United States for the year 1932 appears to be approximately as follows:

	Barrels
Production of crude oil	785,000,000
Imports of oil and oil products	71,000,000
Total new supply	856,000,000
Exports of oil and oil products	90,000,000
Available for dom. consumption	766,000,000
Reduction in stocks during 1932	34,000,000
Consump., oil and oil products	800,000,000

If we were to assume that the consumption of oil in the United States were to decline to 750,000,000 bbls. in 1933 and that production were to be approximately as estimated, that is, 722,000,000 bbls., there would be a deficiency of nearly 30,000,000 bbls., which would have to be taken from storage, or would have to be produced from the large flush areas in excess of the quantity estimated. Any increase, however, in the rate of production of these flush fields will inevitably increase the decline rate of those fields.

Directors of Institute Stand By Proration

(Continued from Page 8)

when refinery runs are heavier in the summer.

"It is certainly a fact that no buyer of crude, large or small, can afford over any extended period of time, to pay higher prices than those at which his competitors can secure their supplies, or any considerable part of their supplies.

"Also, it is just as vital to the interests of the oil producer as it is to the marketer to oppose excessive gasoline taxes and their evasion."

Texas Organizations Act

FORT WORTH, Tex., Feb. 13. — Oil associations in Texas today were either on record or planning to take action indorsing the conservation principles promulgated by the directors of the American Petroleum Institute at their New York meeting, including rigid enforcement of proration regulations and production of only sufficient oil to supply the market demand.

The East Texas Producers and Royalty Owners Association, Tyler, was among organizations Saturday unanimously indorsing the general production principles. Friday night at Kilgore the East Texas Oil Landowners Association, headed by Sam Ross, planned its unanimous approval on the new program. The North Texas Oil and Gas Association took action at a meeting Saturday, the largest in the history of the organization, according to Merrill W. Blair, president.

The matter has been submitted to a mail ballot of directors of the Texas Oil and Gas Conservation Association.

The West Texas Chamber of Commerce meeting in Fort Worth Friday morning, under the chairmanship of W. B. Hamilton of Wichita Falls, adopted a resolution supporting conservation, and it adjourned to meet February 15.

J. R. Parten, president of the Independent Petroleum Association of Texas, announced a directors' meeting to be held in Fort Worth at 10 a.m. Tuesday, February 14, to consider the situation in Austin relative to oil matters.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1932)

For current purchases of crude oil at the well (unless otherwise specified.) (All gravities above those quoted take highest price offered in that field.)

Gravity—	Signal Hill (Long Beach)	Seal Beach, Alamitos Heights, Huntington Beach	Inglewood	Playa Del Rey	Olinda-Brea Canyon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Athens, Rosecrans, Dominguez	Montebello	Wheeler Ridge	Coalinga	Whittier-La Habra
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	....	$.55	$.55	....	$.65	$.55	$.55	$.65
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	..	.65	.55	.55	.65
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	..	.65	.55	.55	.65
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	..	.65	.55	.55	.65
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	..	.65	.55	.55	.65
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	....	.55	.55	..	.65	.55	.55	.65
20-20.9	.69	.69	.73	.69	.69	.69	.69	.65	....	.59	.59	....	.65	.57	.59	.68
21-21.9	.74	.74	.77	.74	.74	.74	.74	.66	....	.63	.63	....	.67	.60	.62	.72
22-22.9	.79	.79	.82	.78	.79	.79	.79	.70	....	.69	.69	....	.70	.63	.65	.77
23-23.9	.84	.84	.88	.82	.84	.84	.84	.76	....	.75	.75	....	.73	.66	.68	.82
24-24.9	.89	.89	.92	.86	.89	.89	.89	.81	$.73	.81	.81	$.89	.76	.69	.72	.89
25-25.9	.93	.93	....	.91	.93	.93	.93	.86	.79	.87	.87	.93	.80	.72	.75	....
26-26.9	.97	.97	....	.96	.97	....	....	.90	.84	.92	.91	.97	....	....	....	....
27-27.9	1.00	....	....	....	1.00	....	....	.94	.89	.97	.94	1.00	....	....	....	....
28-28.9	1.03	....	....	....	1.03	....	....	.98	.94	1.02	.99	1.03	....	....	....	....
29-29.9	1.06	....	....	....	....	....	....	1.02	.98	1.07	1.02	1.06	....	....	....	....
30-30.9	1.09	....	....	....	....	....	....	1.05	1.02	1.12	1.05	1.09	....	....	....	....
31-31.9	....	....	....	....	....	....	....	....	1.06	....	....	1.12	....	....	....	....
32-32.9	....	....	....	....	....	....	....	....	1.10	....	....	1.15	....	....	....	....
33-33.9	....	....	....	....	....	....	....	....	1.14	....	....	....	....	....	....	....
34-34.9	....	....	....	....	....	....	....	....	1.18	....	....	....	....	....	....	....
35-35.9	....	....	....	....	....	....	....	....	1.22	....	....	....	....	....	....	....

The Texas Company, effective June 24, posted same prices as the Standard Oil Co. in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello, North Whittier and Santa Fe Springs.

The Union Oil Co., effective June 26, posted the same price as the Standard Oil Co. in the Signal Hill, Alamitos Heights, Seal Beach, Huntington Beach, Athens, Rosecrans, Dominguez, Torrance, Santa Fe Springs, Playa Del Rey, Coyote, Olinda, Brea Canyon, Richfield and Montebello. In Coalinga, Lost Hills, Kern River, McKittrick, Midway-Sunset, Elk Hills and Buena Vista Hills the Union Oil Co. met the Standard Oil Co.'s prices from 14 gravity upward, but posted a price of 50 cents for oil 11 to 13.9 degrees in gravity.

General Petroleum adopted Standard Oil Co.'s prices, effective June 26, in Rosecrans, Signal Hill, Alamitos Heights, Santa Fe Springs, Inglewood, Torrance, Brea Canyon and Olinda, up to 25.9 degrees; Richfield, Midway-Sunset, Kern River, Mount Poso, Round Mountain and Coalinga and posted in Rincon as follows: 22-22.9 degrees, 68 cents; 23-23.9 degrees, 73 cents; 24-24.9 degrees, 78 cents; 25-25.9 degrees, 83 cents; 26-26.9 degrees, 86 cents; 27-27.9 degrees, 89 cents; 28-28.9 degrees, 93 cents; 29-29.9 degrees, 95 cents, 30 degrees and over, 98 cents. In Rosecrans, General Petroleum Co. pays 65 cents for 14 to 19.9 gravity oil; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 74 cents; 22-22.9 degrees, 79 cents; 23-23.9 degrees, 85 cents, and Standard's prices for oil of higher gravity.

Associated Oil Co., effective June 26, met Standard Oil Co.'s prices in Signal Hill, Huntington Beach, Seal Beach, Alamitos Heights, Richfield, Torrance, Inglewood, Athens, Rosecrans, Dominguez, Santa Fe Springs, McKittrick, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills, Lost Hills, Belridge and Coalinga.

Kettleman Hills—The Union Oil Co., effective June 26, posted 33-33.9 gravity oil at 91 cents; 34-34.9 degrees, 93 cents; 35-35.9 degrees, 95 cents; 36-36.9 degrees, 97 cents; 37-37.9 degrees, 99 cents; 38-38.9 degrees, $1.01; 39 degrees and over, $1.03. Standard Oil Co., Associated Oil Co. and General Petroleum Co. adopted same price schedule on same day.

Santa Paula—The Union Oil Co. and The Texas Company, effective June 26, posted as follows: 14 degrees to 19.9 degrees, 66 cents; 20-20.9 degrees, 69 cents; 21-21.9 degrees, 72 cents; 22-22.9 degrees, 75 cents; 23-23.9 degrees, 78 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 84 cents; 26-26.9 degrees, 87 cents; 27-27.9 degrees, 90 cents; 28-28.9 degrees, 93 cents; 29 degrees and above, 99 cents.

Shields Canyon and South Mountain—The Texas Company, effective June 26, posted same prices as in Santa Paula.

Orcutt—The Union Oil Co., effective June 26, posted prices as follows: 16 degrees to 19.9 degrees, 55 cents; 20-20.9 degrees, 59 cents; 21-21.9 degrees, 63 cents; 22-22.9 degrees, 69 cents; 23-23.9 degrees, 75 cents; 24-24.9 degrees, 81 cents; 25-25.9 degrees, 87 cents; 26 degrees and above, 92 cents.

Playa Del Rey—Subject to a field gathering charge of 5 cents per barrel.

Newhall, McKittrick and Kern River—Standard Oil Co., effective June 23, 1931, posted 55 cents for oil of all grades.

Elwood Terrace—Standard Oil Co., effective June 26, 1932, posts 33-33.9 degrees, $1.04; 34-34.9 degrees, $1.10; 35-35.9 degrees, $1.16; 36-36.9 degrees, $1.22; 37-37.9 degrees, $1.28. All prices f.o.b. ships.

Ventura Avenue—General Petroleum Co. and Associated Oil Co. effective June 26 posted as follows: 22-22.9 degrees, 72 cents; 23-23.9 degrees, 77 cents; 24-24.9 degrees, 82 cents; 25-25.9 degrees, 86 cents; 26-26.9 degrees, 90 cents; 27-27.9 degrees, 93 cents; 28-28.9 degrees, 96 cents; 29-29.9 degrees, 99 cents; 30 degrees and over, $1.02.

Potrero—Associated Oil Co., effective June 26, posted same prices as are paid by all companies in Athens, Rosecrans and Dominguez.

Crude Oil Prices

(Continued from Page 27)

Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.17
Penna Grade Oil in Bureka Pipe Line Lines	1.12
Penna Grade Oil in Buckeye Pipe Line Lines	.97
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Jan. 20, 1932)	.70
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931)	.60

PENNZOIL CO.
(Effective January 21, 1933)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.45
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	1.41
Includes Titusville district.	
Group C	1.40
Includes Turkey and Tidioute districts.	
Group D	1.30
Includes Bear Creek and Porkey districts.	
Group E	1.27
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.	
Price depends on length of pipe line haul to plant at Oil City.	

TIDE WATER PIPE CO.
(Effective January 21, 1933)

Bradford, Pa.	$1.47
Allegany, N. Y.	1.47

PURE OIL CO.
(Effective January 21, 1933)

Cabin Creek, W. Va.	$1.13
Bradford Hollow, W. Va.	1.13
Kelly's Creek, W. Va.	1.13

Middle Western States

OHIO OIL CO.
(Effective January 18, 1933)

Lima (Jan. 10, 1933)	$ .70
Wooster	.70
Illinois	.63
Indiana	.60
Princeton	.62
Plymouth	Shut in
Western Kentucky	.57
Midland, Mich. (Dec. 31, 1932)*	.95
Somerset, Ky. (Jan. 19, 1933)	.45
Muskegon, Mich. (Jan. 18)	See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon posted by Naph Sol Refining Co. and Old Dutch Refining Co.: Below 29 degrees, 51 cents, with 2 cents added for each degree upward to 40 and above at 75 cents. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

Mexico

Panuco*	$ .46

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

Canada

Ontario (Jan. 18, 1933):	
Petrolia*	$1.75
Oil Springs*	1.83
Alberta (Apr. 22, 1932):	
Turner Valley†:	
Crude oil 40-44.9	1.64
Crude oil 45-45.9	2.13
Crude oil 50 and above	2.80
Crude naphtha	3.32
Discolored naphtha	3.08

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

NATURAL GASOLINE MANUFACTURE

California Adds to Stocks of Natural Gasoline December

Natural gasoline stocks increased in California 76,850 bbls. during December while production was increased daily by 1,802 bbls. as the result of larger takings of gas from the Kettleman Hills and Ventura Avenue Fields. Refinery utilization decreased from 30,088 bbls. to 27,135 bbls. daily. The detailed figures compiled by the California offices of the Bureau of Mines follows:

CALIFORNIA NATURAL GASOLINE STATISTICS FOR NOVEMBER AND DECEMBER
(Daily average in barrels)

Supply

	Natural gasoline — November	Natural gasoline — December
Total production	33,212	35,052
Stock trans.	(735)	(61)
Total	32,497	34,991
Deduct refinery requirements:		
Run to stills	3,194	3,229
Blended	26,894	23,836
Total	30,088	27,135
Gains (losses) unaccounted for—Net	(2,167)	(2,129)
Net supply available to market	242	5,727

Demand

Domestic consumption	420	433
Off shore shipments:		
Alaska and Hawaii	1	1
Pacific foreign exports	1,766	466
Atlantic foreign exports	5,018	..
Intercoast. shipments	5,115	2,340
Rail and truck shipments to U. S.: Points outside inc. Coast terr.	8	....
Total market demand	12,330	3,248
Surplus or (deficit)	(12,088)	2,479

Stocks

Inside Pac. Coast. terr. —Last day	2,337,380	2,414,230
Increase for month	.....	76,850

OPERATING DATA

Number of plants operating	105
Daily cap. in thousands cu. ft.	2,594,475

PRODUCTION BY FIELDS

	Gas treated (thou and cu. ft.)	Natural gasoline produced (gallons)
Fullerton and Whittier	471,923	1,145,540
Midway	1,560,408	2,528,998
Huntington Beach	441,731	1,331,078
Kettleman Hills	10,509,243	13,400,217
Long Beach	3,211,705	7,635,072
Richfield	389,551	430,035
Santa Fe Springs	4,956,238	7,502,434
Seal Beach	492,969	877,136
Ventura Avenue	3,832,563	3,902,331
All other fields	4,326,520	6,330,273
Total	30,192,901	45,083,614

LIQUEFIED PETROLEUM GASES
(Barrels—daily average)

	November	December
Production	408	426
Sales	420	433

OIL STATE ELECTS

At the annual meeting of the stockholders of the Oil State Gasoline Co. held in Tulsa, February 6, the following officers were elected:

Oscar R. Howard, president, treasurer and general manager; C. E. Duffield, vice president; W. J. Zollinger, secretary and assistant treasurer. The newly elected directors of the company are Oscar R. Howard, C. E. Duffield, H. N. Greis, W. D. Abbott and W. J. Zollinger. Charles W. Stepp was appointed general superintendent in charge of operations of the company.

Stocks at Natural Gasoline Plants Are Reduced to Lowest Point in 7 Years

The natural gasoline industry entered 1933 with the lowest stocks on hand at its plants in seven years. Despite an increase in production during December, stocks were reduced from 20,078,000 gallons on December 1 to 18,840,000 gallons January 1, a large share of which was due to the greater demand for the product on the part of refiners located in the Mid-Continent. Contrary to this experience, however, small additions were made to the stocks held in Texas and California, the two other large producing States. It is also shown, however, that stocks of natural gasoline at refineries increased and this increase was more than the decline in stocks at the natural gasoline plants.

In comparing the trend of production in the individual states during November and December reductions are shown for December in Oklahoma and Texas, while California increased sufficiently to equalize these and to bring the total production of the country above that of the previous month. This increase in production in California is due largely to the larger pipe line runs of residue gas occasioned by the colder weather. This was particularly applicable to the increased takings in the Kettleman Hills Field, where the production of natural gasoline jumped from 10,200,000 gallons in November to 13,400,000 gallons in December. The relatively large gasoline production in the Kettleman Hills Field in December suggests the importance of that field as a source of natural gasoline not only at present but in the future for other California fields continue to register declines due to the natural loss of gas pressure.

This does not mean that all of the natural gasoline is being produced in the fields outside of Kettleman Hills that could be produced, but it is true that there is a lesser difference between what is produced and what could be produced in the fields outside of Kettleman Hills than in that area.

In comparing the production in 1931 with that of 1932 by areas, it will be seen in the accompanying table that drastic reductions were made in all areas during the latter year. Of the total drop of 329,500,000 gallons for 1932, California was by far the greatest factor. The decrease there approximated 135,000,000 gallons, or 41 per cent of the total decrease for the country. Oklahoma and Texas also showed a material reduction, Oklahoma reducing its output approximately 77,000,000 gallons and Texas 74,000,000 gallons. The production of all three of these States was reduced in part at least by the proration but California was affected most by the curtailing of crude oil output in practically every important field. This is also true of fields in Oklahoma and Texas but the effect in the latter fields has not been felt so materially from the standpoint of gasoline production because Oklahoma City, the only flush field in Oklahoma, was curtailed more drastically in 1931 than in 1932, and the only flush field of large proportions in Texas was the East Texas area which by nature produces little gas and the output of gasoline there has not equalled the natural decline in gas supply in the older fields of the State.

In the Oklahoma City Field, production actually increased in 1932 compared to the previous year and was the only important area in which this is shown. This was rapidly absorbed by the decline in the Seminole Field's output and as was stated previously, the output for the State was reduced materially.

In Texas the Panhandle Field showed the largest decline and this has been the result of several important factors. There has been a reduction in the output there because of producing much lower vapor pressure products in addition to the fact that the gas supply has been materially reduced because relatively few new wells were drilled, even on proved acreage.

In the following table showing the trend of stocks of natural gasoline over the past two years, only those stocks at natural gasoline plants is shown. These data as well as that shown in the accompanying table was prepared by the Bureau of Mines.

STOCKS OF NATURAL GASOLINE AT GASOLINE PLANTS AT CLOSE OF PERIOD

1932—	Gallons
January	34,000,000
February	36,800,000
March	39,778,000
April	44,584,000
May	44,278,000
June	34,106,000
July	31,809,000
August	25,888,000
September	24,628,000
October	24,200,000
November	20,078,000
December	18,840,000

NATURAL GASOLINE STATISTICS FOR DECEMBER
(Thousands of gallons)

	Natural gasoline — Production — Dec., 1932	Nov., 1932	Jan.-Dec., 1932	Jan.-Dec., 1931	Stocks end of month — Dec., 1932	Nov., 1932	Blended motor fuel, Dec., 1932 — Natural gasoline used	Naphtha or other oils used	Stocks end of month
Appalachian	6,900	6 200	66,700	72,500	1,768	1,695	32	51	82
Ill., Ky., Ind.	800	800	8,100	10 500	191	205	0	0	0
Oklahoma	28,600	29,900	377,700	454,900	5,711	7,641	24	12	29
Oklahoma City	6,500	6,600	77,100	53,800	751	917	0	0	0
Osage County	3,400	3,700	47,500	66,700	637	766	5	1	6
Seminole	7,800	8,100	112,400	188,700	2,071	3,047	1	0	0
Rest of State	10,900	11,500	140,700	145,700	2,252	2,311	18	11	23
Kansas	2,200	2,200	24 600	32,700	410	508	37	3	40
Texas	28,500	29,500	352,500	426 700	6,788	6 155	87	54	34
Panhandle	14,500	14,300	170,800	212,300	3,485	3,291	37	1	3
North Texas	1,800	1,900	24,800	31,800	644	547	5	0	8
West Central	6,800	7,300	86,300	109,700	1,340	1,307	0	0	0
Rest of State	5,400	6,000	70,100	72,900	979	1,010	45	53	18
Louisiana	3,200	3,200	46,400	58,000	715	744	48	8	37
Arkansas	1,300	1,400	19,400	26,300	164	259	45	6	21
Rocky Mountain	4,700	5,300	62,000	70,000	879	1,021	22	0	6
California	45,100	41,400	545,000	680,300	2,636	2,450	0	0	0
Huntington Beach	1,300	1,300	17,000	21,100	0	0	0	0	0
Kettleman Hills	13,400	10,200	135,300	172,100	0	0	0	0	0
Long Beach	7,700	7,700	104,400	135,400	0	0	0	0	0
Santa Fe Springs	7,500	7,500	99,400	123,100	0	0	0	0	0
Ventura Avenue	3,900	3,400	40,100	55,100	0	0	0	0	0
Rest of State	11,300	11,300	148,800	173,500	0	0	0	0	0
Total	121,300	119,900	1,502,400	1,831,900	18,840	20,078	295	139	249
Daily average	3,910	4,000	4,100	5,020	0	0	10	4	0
Til. (thou. of bbls.)	2,888	2,855	35,772	43,617	449	478	7	3	6
Daily average	93	95	98	119	0	0	0	0	0

DISTRIBUTION OF NATURAL GASOLINE—DECEMBER, 1932
(Thousands of barrels)

	Dec., 1932 — Total	Daily av.	Nov., 1932 — Total	Daily av.	Jan.-Dec., 1932	Jan.-Dec., 1931
Production	2,888	93	2,855	95	35,772	43,617
Decrease in all stocks	0	0	408	14	0	282
Total	2,888	93	3,263	109	35,772	43,899
Blended at refineries	2,154	70	2,293	77	25,081	33,974
Blended at plants east of Calif.	7	0	6	0	51	149
Run through pipe lines in Calif.	102	3	96	3	1,251	1,142
Export and sales to jobbers	250	8	500	17	5,327	4,250
Increase in all stocks	148	5	0	0	379	0
Balance	227	7	368	12	3,683	4,384
Total	2,888	93	3,263	109	35,772	43,899

Revive Litigation in Effort to Strip Gas in Panhandle

AUSTIN, Tex., Feb. 13.—The railroad commission has set for hearing in Amarillo, February 18, the application of Hagy, Harrington and Marsh of Amarillo for a permit to process gas from their seven wells for natural gasoline. The company revived its application for authority to strip casinghead gasoline, and to burn residue gas for carbon black, after new orders for ratable taking of natural gas in the Panhandle Field, under the November oil and gas law, had been enjoined by major exporters of gas from the field.

The Railroad Commission has already granted applications of six owners of "sour" gas wells to use their gas for producing casinghead gasoline.

The firms, all having wells in Hutchinson County near existing extraction plants, are: Polo Oil Co., J. R. Barnhill, Texarado Oil & Gas Co., L. M. Fisher, trustee for Paramount Oil Corp., J. L. Williams and Reliance Development Co. Each was allowed to open wells to 25 per cent of their open flow.

The commission announced, in granting the permit, it had been petitioned by 6,000 citizens of the area to allow the owners the use of gas in some manner. Production of gasoline will increase revenues of the transportation agencies, give employment to people, increase state taxes and the business of the area, he said.

The petition of Hagy, Harrington and Marsh urged that export pipe line companies in the West Panhandle Field have a monopoly on the gas outlet for light and fuel, that the exporters refuse to take gas from any but their own wells, that the Federal Court has restrained the railroad commission from enforcing the ratable marketing of gas, and that the company has been unable for two years to sell any of its gas, while its holdings were being drained by the exporters. The petition urged the only relief by which the firm could prevent confiscation of its gas and put the product to beneficial use was to strip the gas for casinghead gasoline, and where practical, burn the residue for carbon black.

Late Fields

OKLAHOMA

A petition was presented to the Oklahoma Corporation Commission Monday asking that the Oklahoma City Field be shut down for a period of 30 days or longer if necessary. The petition was filed by the Anderson-Prichard Corp. and T. B. Slick estate.

The only wells that would be exempted would be those making a large percentage of water and others which could not be shut down on account of mechanical or physical reasons. The duration of the shut down would be until such a time as the legislature can pass laws under which the commission may regulate the oil production and prevent wastage of gas.

The Clarke Pipe Line Co. is preparing to start construction work on an 8-inch pipe line from the Oklahoma City Field, to a point south of Cushing, possibly near Kendrick, in Lincoln County, and from there the line will branch, one line going north to Cushing and another branch going to Bristow. Other companies believed to be interested in this pipe line project include the Cushing Gasoline & Refining Co., Globe Refining Co. and H. F. Wilcox Oil & Gas Co.

The semiwildcat test of the Stanolind Oil & Gas Co. and Amerada Petroleum Corp., No. 1 Palmer, NW cor., Section 36-6-7, near the townsite of Sasakwa, in Seminole County, found a showing of oil in the Cromwell sand at 2,839-62 feet. It was drilling deeper on the last report at 3,030 feet. Another showing of oil was found in the well at 2,603 feet.

Carter Oil Co. and others' No. 1 Community, C N half NW NE, Section 2-10-6, a wildcat in the northern end of Seminole County, was drilling at 3,545 feet. It found a sand at 2,833 feet which was dry.

The wildcat test of the Stanolind Oil & Gas Co. and Amerada Petroleum Corp., No. 1 Kolb, C NE NW, Section 33-20-2w, which extended the production in the Wentz Pool, in Noble County, was opened Saturday for a production test after being shut in for several days on account of cold weather. It made 737 bbls. in 24 hours. Monday's gauge was 618 bbls. The total depth of the well is 5,118 feet in the second Wilcox sand. The same companies' No. 1 Bo'ay, C SW NW, Section 16-20-2w, was drilling at 1,560 feet. It is located three-quarters of a mile due east from the discovery well in the field.

MISSISSIPPI

SHREVEPORT, La., Feb. 14.—Matson and others' No. 1 Warner, SE SE Section 14-5-1, Rankin County, Mississippi, in the Jackson gas field, came in February 10 flowing an estimated 300 to 500 bbls. of fluid, 80 per cent salt water from 2,486 feet. The oil is the same heavy asphaltic crude that Henslee and others' No. 1 Warner in the same 40 acres as the Matson well produced when completed last September, making an estimated 500 bbls. of oil and 3,000 bbls. of salt water from 2,469 feet.

KANSAS

White Eagle Oil Corp. announces the construction of an 8-inch pipe line from its main line running north and south from Valley Center in Sedgwick County, Kansas, to the Ritz-Canton-Decker Pool in McPherson County. The branch line will run to the Mabee Pool, McPherson County, and the Hollow Pool in Harvey County.

The pipe line will be 15 miles long and will give the two areas additional outlets for crude oil. The posted price will be paid for the oil in the Mabee and Hollow Pools. Work on the pipe line is expected to start at once and it is planned to have it in operation in March.

Daume Maxwell Petroleum Co.'s No. 1, NE cor. SE Section 24-21-3w, is a wildcat location some distance east of the Voshell Pool, in McPherson County. It is being drilled on a block of 2,200 acres the company owns in the district.

In the south end of the Ritz-Canton-Decker Field, in McPherson County, the Mohawk Oil Co. and others' No. 1, SW cor. NE Section 7-20-1w, found water in the Wilcox sand at 3,456-63 feet and was plugged back to the Viola lime at 3,406-08 feet, where it will be completed. It had an initial production from the Viola lime before being drilled deeper of 600 bbls. a day.

Olson Oil Co. and others' No. 1, C SW SW Section 17-14-10w, No. 1 Brack, Ellsworth County wildcat, found water in the Siliceous lime at 3,223-3,335 feet and is shut down. It may be abandoned.

Production Problems Will be Discussed at A. P. I. Meeting at Wichita, Kans.

By L. G. E. BIGNELL
Petroleum Engineering Editor

What promises to be one of the important regional meetings of the Division of Production of the American Petroleum Institute is scheduled for Wichita, Kans., February 17 and 18. Members of the Wichita chapter of the Mid-Continent section will act as hosts and have selected the Allis Hotel as the place for the meeting. The subjects selected for the papers are all of importance and timely and will deal with problems now confronting production men in this area.

The Mid-Continent section under the leadership of Chairman David Trax,

DAVID L. TRAX

Gypsy Oil Co., Tulsa, has been very active during the past year and two chapters were formed during that period. More than 300 oil men met at Pampa, Tex., February 9, 1932, and formed the Panhandle chapter. On June 16, 1932, the Wichita, Kans., chapter was formed. The other chapters in this section are Drumright, Seminole, Tonkawa and Burbank, Okla.

The division of production is now planning to develop a uniform series of programs to be presented at all chapters. They will be educational in scope and deal with the application of modern production methods to field requirements in the various fields and districts.

The Wichita chapter has arranged several interesting features for the entertainment of their guests which will include a luncheon Friday noon at the All Steel Products Co. Friday evening there will be a banquet beginning at 7 p.m. at the Allis Hotel at which addresses will be made by Thurman Hill, member of the Kansas Public Service Commission; W. Y. Davis and Jack Vickers.

Plans have also been made to entertain the ladies of members attending this meeting.

Arrangements have been made for reduced fares on railways and Transcontinental-Western Air Lines and also bus lines in the State of Kansas. In purchasing railway tickets it is suggested that one-way certificates be secured and after they are counter-signed by F. F. Schottlander at the Allis Hotel half fare tickets can be secured for the return trip. This plan covers Oklahoma, Texas, Louisiana, New Mexico, Colorado, Arkansas, Missouri and Kansas.

The spring meeting of the southwestern district of the American Petroleum Institute Division of Production will be held in Houston, Tex., at the Rice Hotel, April 7 and 8 and arrangements are now being perfected by Chairman Blaine Johnston, vice president, Simms Oil Co., Dallas, Tex.

The program for the Wichita meeting follows:

Friday, February 17, 9:30 a.m.

Opening Address by Chairman David L. Trax, Gypsy Oil Co.

Report of Chanters, by Vice Chairman L. A. Ogden, Empire Companies, and E. L. Bell, Deep Rock Oil Corp.

Report of secretary, W. J. Crites, Phillips Petroleum Co., Bartlesville, Okla.

1. "Taxes in the Oil Industry," E. R. Filley, The Texas Company, Tulsa.

2. "Ratable Taking Equities in the West Panhandle Gas Field," J. E. Warren, Continental Oil Co., Borger, Tex., and J. D. Thompson, Amarillo, Tex.

3. "Progress in Methods of Increasing Oil Production," A. F. Melcher, Tulsa.

Noon recess—Luncheon Allis Hotel.

Friday, February 17, 1:30 p.m.

4. "Bottom Hole Pressure Gauges," David G. Hawthorn, Barnsdall Oil Co., Tulsa.

5. "Proration Based Upon Bottom Hole Pressures and Acreage," J. O. Lewis, and Harry F. Wright, consulting engineers, Tulsa.

6. "Present Tendency in Development of New Production Methods," Raymond Carr, Sinclair Prairie Oil & Gas Co., Tulsa.

7. "Acid Treatment of Oil Wells," Dowell, Inc., Midland, Mich.

Friday Evening, February 17

Entertainment by Wichita Chapter at Allis Hotel.

Saturday, February 18, 9:30 a.m.

8. "Economies Effected by Treating Water for Pumping Engines," H. M. McClain, Magnolia Petroleum Co., Oklahoma City, Okla.

9. "Selection of Pump Diameters for Oil Wells," Austin Allen, Phillips Petroleum Corp., Bartlesville, Okla.

10. "Value of Gas Conservation and Efficient Use of Natural Water Drive," Dr. H. D. Wilde, Jr., Humble Oil & Refining Co., Houston, Tex. To be presented by Harry H. Power, Gypsy Oil Co., Tulsa.

Nomination and election of officers.

Adjournment.

CONROE PRORATION HEARING

HOUSTON, Tex., Feb. 14.—Taking of evidence in the proration hearing for the Conroe Field opened today before R. D. Parker, chief supervisor of the oil and gas division of the Railroad Commission. A short time was allotted Tuesday afternoon for a special hearing for the Saxet Field, Nueces County.

F. W. Micheaux, petroleum geologist for the Humble Oil & Refining Co. at Conroe, testified that the producing horizon of Conroe is not lenticular but rather one continuous sandy shale section with a uniform water table and water drive and with a present area of approximately 13,000 acres. Due to the rate of production, he stated, bottom hole pressures in the field have dropped from an original pressure of approximately 2,275 pounds to around 2,180 pounds.

Under the present proration plan the total allowable is allocated on an acreage-well basis, being distributed equally to 20-acre units.

Half of Pipe in Iraq; Work From Three Points

More than half the 120,000 tons of pipe necessary for the pipe lines which are to carry oil from Iraq to Tripoli and Haifa were already at these Mediterranean ports by the end of 1932, according to information given out in New York in connection with a loan for financing of the French participation in the enterprise. Of the total order French firms obtained 52,000 tons, British 50,000, German 10,000 and American 8,000.

The northern pipe line from Kirkuk to Tripoli (French Syria) measures 530 miles and the southern to Haifa (British Palestine) 620, and the piping varies from 325 mm. to 275 mm. (12½ to 10½-inch in diameter. The work of laying the pipe goes on simultaneously from these three points and pipe is already distributed over some 400 miles of the route. Mechanical excavators are in use to dig the trenches. Other apparatus inclues derricks mounted on caterpillars, portable soldering machines and tractors of various descriptions. At present 5,000 workers are employed on the project.

Telephone and telegraph lines following the pipe lines are also being constructed by British firms which have in addition obtained orders for 12 pumping stations to be operated by Diesel engines. Three of the stations will be situated on the Kirkuk-Euphrates double line before it branches at Haditha into the French and British lines, with five and four pumping stations each.

The oil is to be delivered at ports at cost price plus up to 5 shillings a ton for remuneration of capital engaged.

San Antonio Geological Society Annual Meeting

SAN ANTONIO, Tex., Feb. 13.—The annual meeting of the San Antonio Geological Society is to be held February 17 and 18 at the Plaza Hotel here.

The convention opens the evening of February 17 with a nontechnical meeting open to the public at 8 p.m. An address will be made by Ike S. Kampman on the importance of oil development to Southwest Texas and one on the value of natural gas and the conservation and efficient use of natural water drive by H. D. Wilde, Jr. A review of oil and gas development in Southwest Texas during 1932 will be given by I. K. Howeth.

Saturday opening at 9 o'clock a.m., the association will be held in session throughout the day and there will be papers and addresses as follows: "Producing Horizons of the Texas Gulf Coast," by Alexander Duessen; "Pettus Sand of Southwest Texas," by Al Feirando; "Surface and Subsurface Relationship of Yegua, Jackson and Frio Formations of Southwest Texas," by Al Feirando; "Plugging Back Work in Salt Flats," by R. E. Watson; "Carolina-Texas and Laurel Fields," by Don Danvers and Olin G. Bell; "Driscoll Ranch Pool of Duval County," by I. R. Sheldon; "A Subsurface Study of Ordovician Stratigraphy of West and Southwest Texas," by Henry Morgan; "Subsurface Conditions in Southeastern Edwards Plateau," by Joseph M. Dawson; "Deep Well Correlation Along the Balcones Fault Zone," by Sam H. Houston, Jr.; "Purpose and Methods of Field Work in Southwest Texas of the U.S.G.S.," by W. N. White.

DUVAL COUNTY PURCHASES

SAN ANTONIO, Tex., Feb. 14.—Smith & Capps are understood to have sold a half interest in their block in Duval County with the discovery No. 1 Peters gas well on it in Survey No. 178 to Shasta Oil Co. for a consideration of $50,000, of which half is paid in cash and the other half to be paid out of oil. The other half interest in the block is owned by Leon Russ and Walter Goldston. Highland Oil Co. is understood to have bought $10,000 worth of royalty under the Peters ranch on which the discovery well is located, paying at the rate of $50 base. Leon Russ is identified with the Highland Oil Co.

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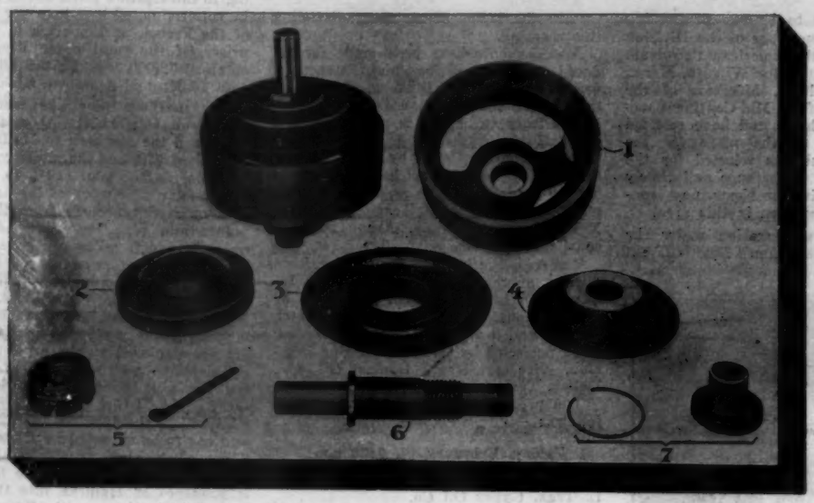

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With the present proration and cutting of oil prices, successful oil men watch their pennies where formerly they watched their dollars.

MISSION VALVES GIVE 3 TIMES MORE PUMPING PER DOLLAR

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The following are among the astounding records that are constantly being made with Mission valves:

ONE MAJOR COMPANY PUMP drilled 24 wells in East Texas; 88,000 feet. At the end of which time, only replaced eight seats. Still using balance of material originally installed, including inserts.

A MAJOR CONTRACTOR recently changed valves in a pump that had been in continual service for 13 months, digging wells from 3,700 feet to 7,000 feet. No material used in this wonderful record other than eight new bushings and eight new inserts replaced at the end of eight months' use; then valves went on and did five months' more service.

ANOTHER MAJOR CONTRACTOR has just completed three wells in Oklahoma City without replacing a single part.

STILL ANOTHER MAJOR CONTRACTOR completed two deep wells at Barbers Hill and two wells at Conroe with one set of valves.

MISSION VALVES and MISSION SLIPS distributed by REED ROLLER BIT CO. West of the Rockies

GREAT SAVING *in* LABOR *and* MONEY

Exhaustive tests have shown that the valve proper and rubber inserts will run under high pressure for 60 days and longer without change.

THE MISSION VALVE DECREASES OVERHEAD because wearing parts are replaced without pulling seat, an operation that is too often costly and time consuming.

THE MISSION VALVE REDUCES THAT ONE GREAT CAUSE OF VALVES WEARING—metal to metal contact. Only the hardened Valve body and bushing need ordinarily be replaced at a very small cost, as no other parts have metal to metal contact.

THE MISSION VALVE REQUIRES A GREATLY REDUCED PUMP PARTS INVENTORY because of INTERCHANGEABILITY OF PARTS, a much appreciated economy by companies which are using numerous pumps of various makes.

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Text of Opinion of Supreme Court of Oklahoma in Case of the Russell Petroleum Company

The text of the decision of the Oklahoma Supreme Court in the case of the Russell Petroleum Co. vs. the Oklahoma Corporation Commission and Lieut. Col. Cicero I. Murray, follows:

The plaintiff in error commenced an action against the defendants in error in the District Court of Oklahoma County. The trial court held that it was " . . . without power, jurisdiction or authority to enjoin the corporation commission or the defendants, Paul Walker, Roy Hughes and C. C. Childers, constituting said commission, from trying the plaintiff upon any charge . . . " and that it was " . . . without power, jurisdiction or authority to enjoin the defendant, Cicero I. Murray, his agents and servants and those acting under his direction as prayed in plaintiff's petition . . . " From the judgment based thereon the plaintiff appealed to this court. Hereinafter the parties will be referred to as plaintiff and defendants.

The first question presented by the plaintiff is:

"Does the District Court of Oklahoma County, Oklahoma, sitting in equity, have jurisdiction to enjoin the corporation commission from closing an oil well for a violation of its orders or some one of them, in a proper case?"

The plaintiff says that the trial court renounced jurisdiction as to the orders of the corporation commission upon the theory that Section 20, Article 9, of the Constitution forbade its exercise thereof. That section provides that:

" . . . No court of this State (except the Supreme Court, by way of appeals as herein authorized), shall have jurisdiction to review, reverse, correct, or annul, any action of the commission within the scope of its authority, or to suspend or delay the execution or operation thereof, or to enjoin, restrain, or interfere with the commission in the performance of its official duties; provided, however, that the writs of mandamus and prohibition shall lie from the Supreme Court to the commission in all cases where such writs, respectively, would lie to any inferior court or officer."

Application of Provision

That provision is applicable only to actions of the corporation commission which are within the scope of its authority. That provision and the provisions of Section 2, Article 7, of the Constitution, when construed together, vest this court with exclusive jurisdiction to review, reverse, correct, or annul any action within the scope of the authority of the corporation commission. By the provisions of Section 10, Article 7, of the Constitution, district courts have jurisdiction in all cases, civil and criminal, except where exclusive jurisdiction was, by this constitution, or is, by law, conferred on some other court. Since exclusive jurisdiction was conferred upon this court by the constitutional provisions, supra, the district court did not have jurisdiction to review the orders of the corporation commission which were within the scope of its authority.

This court in Russell et al vs. Walker et al, — Okla. — 15 Pac. (2d) 114, held that the corporation commission had jurisdiction, under the provisions of Sections 11,565 to 11,574, inclusive, O. S. 1931 (Sections 7,954 to 7,963, inclusive, C. O. S. 1921), to impose and enforce reasonable regulations for the production of oil from a common source of supply. That decision was based on the decision of this court in C. C. Julian Oil & Royalties Co. vs. Capshaw et al, 145 Okla. 237, 292 Pac. 841, and the decision of the Supreme Court of the United States in Champlin Refining Co. vs. Corporation Commission et al, 286 U. S. 210, 52 S. Ct. 559, 76 L. Ed. 1,062, in each of which decisions the legislative act, supra, was held neither to be repugnant to the provisions of the Federal nor the state constitution.

Plaintiff's Contention

In the trial court, the plaintiff contended that the corporation commission was assuming and claiming the right to order the wells of the plaintiff closed for violation of certain orders theretofore made by the corporation commission. The plaintiff contended then and contends now that the orders said to have been violated were void for the reason that they operated as a discrimination against the plaintiff. Those orders were legislative in character and were made under the authority granted to the corporation commission by the legislature. They were not orders judicial in their character.

The making of the legislative orders, supra, was within the scope of the authority of the corporation commission. This court will assume that the corporation commission will act within the scope of its authority when it proceeds, if it ever does, to make an order judicial in character with reference to the property of the plaintiff. From that order an appeal may be taken to this court or this court may exercise its general superintending control over the corporation commission and issue a writ of prohibition. If either procedure is followed, this court will review the legislative orders upon which the judicial orders are based. Thereby the plaintiff is afforded an adequate remedy.

We have not overlooked the decision of this court in Pioneer Telephone & Telegraph Co. vs. State, 40 Okla. 417, 138 Pac. 1,032, cited by the plaintiff.

The district court did not err in denying the application for injunction against the corporation commission and its judgment thereon is in all things affirmed.

The second question presented by the plaintiff is:

"Did the District Court err in holding that, because of the orders of the governor hereinbefore set forth, it had no jurisdiction or authority to control the defendant in error, Cicero I. Murray and those who acted with him and under his command and direction?"

No Charge of Overproduction

It appears from the record that, while the corporation commission had made an order fixing the allowable flow of all wells in the Oklahoma City oil field and other orders legislative in their character for the prevention of waste, no charge of overproduction by the plaintiff had been filed with the corporation commission; that the corporation commission had made no order directing the search breaking or entering into, or the seizure of any of the property owned or operated by the plaintiff, and that Cicero I. Murray was not an agent of the corporation commission.

In a brief the defendants state:

"As soon as possible, after this case was determined, proceedings were filed before the commission for a determination of the amount of Russell Petroleum Co.'s overproduction, and the period of time that should elapse before it was legally entitled to produce again, and that would have been determined long since but for the Russell company's application to this court for a writ of prohibition against the commission prohibiting it from hearing and determining the matter, which is still pending. The intent has been to follow the due and orderly process of law, and to release the wells when the proper time found by the commission under its proration orders had expired."

Thereby, in effect, they say that they took charge of the property of this plaintiff, closed its wells, and thereafter proceeded before the corporation commission for a determination of the amount of overproduction by the plaintiff. If they had proceeded before the corporation commission prior to taking charge of the plaintiff's property, and if, prior thereto, the corporation commission had found and determined that the plaintiff had overproduced its wells, and if, prior thereto, the corporation commission had ordered those wells to be closed, a materially different case would have been presented. While they say that their intention was to follow the due and orderly process of law, their statement of facts is to the contrary. The executive orders, which they offer as a defense for their actions, show upon their face that they apply to every oil well in the Oklahoma City Field without regard to whether or not the owners or operators thereof have violated any provision of the statute. The orders show an intention to take charge of the Oklahoma City oil field for the purpose of preventing any violation of the statute by any person operating any well in that field. Had the defendants intended to follow the due and orderly processes of law, as they contended in their briefs, they would have waited until the corporation commission had made a finding of fact and an order based on that finding which authorized the closing of the wells of this plaintiff. While they say in their brief that this is a mere case to prevent a party from defiantly, persistently and constantly violating the law, they nowhere contend, and on oral argument they admit, that there has been no determination by the corporation commission or by any court that the plaintiff has violated any law.

In the trial court the plaintiff contended that Cicero I. Murray and the state militia under his charge had seized the wells of the plaintiff and were holding the same and the property of the plaintiff on which the wells were situated, without any authority of law.

The contention that those acts were without authority of law was based on the contention that the corporation commission had made no order finding or determining that the plaintiff had violated the provisions of any status or any order made thereunder; that there were no valid orders of the corporation commission to be enforced; that the defendant, Cicero I. Murray, was not an officer, agent, or representative of the corporation commission, and that he was not properly charged with the duty of enforcing any order promulgated by the corporation commission.

As a defense thereto it was contended that Cicero I. Murray and the militia under his charge were acting under authority of two orders made by the chief executive of the State of Oklahoma.

Jurisdiction of Trial Court

It is contended that the trial court was without jurisdiction to inquire into the authority of the militia and to enjoin the defendants, Cicero I. Murray, his agents and servants and those acting under his direction, from interfering with the property of the plaintiff. That contention is based on a provision of Section 8, Article 6, of the Constitution, which requires the governor to cause the laws of the State to be faithfully executed, and a provision of Section 6, of that article, which authorizes the governor to call out the militia to execute those laws. Those constitutional provisions apply to all of the laws. Section 7, Article 2, of the Constitution is one of those laws. That section provides that no person shall be deprived of his property without due process of law. That provision may not be violated in an effort to enforce each legislative enactment. Reliance may not be had upon a provision of the Constitution authorizing the calling out of the militia of the State to execute the laws as a defense to actions of the militia which violate the constitutional provision that no person shall be deprived of his property without due process of law.

Under the provisions of Article 6 and Section 1, Article 4, of the Constitution, no order, proclamation, or decree of the governor of the State, as the chief executive thereof, has the force of law, the law-making power of the State being vested exclusively elsewhere.

"The military shall be held in strict subordination to the civil authorities. No soldier shall be quartered in any house, in time of peace, without the consent of the owner, nor in time of war, except in a manner to be prescribed by law." Section 14, Article 2, of the Constitution.

In part, the two executive orders are legislative in character.

The first paragraph of the first executive order recites, as a reason for the order, which, in effect, established a military receivership of the Oklahoma City oil field, that the penalties included in the legislative enactment had been held to be invalid by the Supreme Court of the United States. That court, in Champlin Refining Co. vs. Corporation Commission, et al, supra, held Section 9 of the legislative enactment to be invalid. That section provided that any person, firm, or corporation violating the provisions of the act should be subject to have his or its producing property placed in the hands of a receiver by a court of competent jurisdiction, the receivership to extend to the operation of producing wells and the marketing of the production thereof. By the executive orders provision was made for the establishment of a military receivership of the Oklahoma City oil field when no civil receivership thereof was authorized.

The second paragraph of the first executive order recites that the effect of the penalty provided by the legislature was to license a violation of the law. That reason was stated for an attempt to establish by executive order a more efficient manner or system of handling the matter than had been authorized or provided by the laws enacted by the legislature. Injunctive process of the courts of this State is available in aid of the execution of the laws of the State and to prevent a continued violation of the laws of the State, where property rights are involved and where there is no adequate remedy at law. That remedy was available. There was another remedy, that is, "to convoke the legislature" for the purpose of providing adequate procedure and penalties for the enforcement of the law. Section 7, Article 6, of the Constitution, which grants that authority, immediately precedes the action which requires the governor to cause the laws of the State to be faithfully executed; no greater penalty or different manner of enforcement may be imposed than that provided by the legislative enactments, and a greater penalty or different manner of enforcement imposed by an executive order is ineffective.

Authority of Legislature

It must be kept in mind that the legislative enactment in question is the only authority for the proration of oil. "The right to reduce oil and gas to possession is a valuable property right." Wright vs.

Carter Oil Co. 27 Okla. 46, 223 Pac. 565. Oil and gas when reduced to possession are property. Before the enactment of the legislative enactment in question, every person had the right to drill wells on his own land and to take from the pool below all the oil that he might be able to reduce to possession including that coming from land belonging to others. Champlin Refining Co. vs. Corporation Commission et al, supra. The legislature imposed what it considered to be reasonable regulations to prevent unnecessary loss, destruction, or waste of oil. It also imposed penalties. The invalidity or the inadequacy, if any, of the penalties imposed did not authorize the imposition or enforcement of penalties not provided by law.

One of the executive orders directed that an assessment be levied against the producers in the field to pay the expense of police and military regulation thereof, and that for want of payment thereof and as a penalty for a failure to pay the same, the wells of the producer failing to pay should be closed and kept closed until payment thereof was made. That order did not purport to be under any authority conferred by law on the corporation commission. The corporation commission has no such authority. The legislature is required to provide for the maintaining of the militia. Section 40, Article 5, of the Constitution. There is no authority of the chief executive of this State to levy, or to direct that there be levied, an assessment on any person, firm, or corporation, either as a tax or as an expense for police and military regulation, or to close producing wells or direct that they be closed for failure or refusal of the operator thereof to pay such an assessment.

The fourth paragraph of the first executive order recites, as a basis for the order made, that a rigid enforcement of the law was required, "particularly for maintaining a reasonable and stable price for crude oil," and the collection of revenue due to the State. We note the statement of the Supreme Court of the United States in Champlin Refining Co. vs. Corporation Commission et al, supra, that the corporation commission has never made an order under Section 2 of the act and that no order has been made by it for the purpose of fixing prices. The executive order was an attempt on the part of the chief executive to do that which the corporation commission has not done.

While the third paragraph of the first executive order, in effect, recites that great quantities of oil had been and were being taken out of the field in violation of proration orders of the corporation commission, it does not recite that this plaintiff had taken or was taking oil from the field in violation of proration orders of the corporation commission.

Neither the corporation commission nor any judicial tribunal established by law has found or determined that the plaintiff has violated any law, or had decreed that the property of the plaintiff should be taken from it and its wells closed. The executive orders of the governor do not constitute due process of law within the meaning of our Constitution. We adopt the language of the Supreme Court of the United States in R. S. Sterling, Governor of the State of Texas et al vs. E. Constantin et al, No. 11,453, opinion filed December 12, 1932, as follows:

"The assertion that such action can be taken as conclusive proof of its own necessity and must be accepted as in itself due process of law has no support in the decisions of this court," as applicable herein.

A portion of one of the briefs of the defendants is devoted to a discussion of whether or not this court may control the actions of the governor. The record discloses no effort to control the actions of the governor. The question here is not whether or not the governor of the State may call out the militia for the purpose of enforcing the laws of the State. The question here is whether or not the militia may be enjoined when, after it has been called out, it attempts to take, or is taking private property from an owner thereof without due process of law. The defendants assert that the courts are without authority to enjoin the militia. In the language of Mr. Chief Justice Hughes, in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra;

"If this extreme position could be deemed to be well taken, it is manifest that the fiat of the state governor, and not the Constitution of the United States, would be the supreme law of the land . . . "

Governor and Constitution

That statement is applicable to the Constitution of the State of Oklahoma. If this extreme position could be deemed to be well taken, it is manifest that the fiat of the chief executive of Oklahoma, and not the Constitution of the State of Oklahoma, would be the supreme law of Oklahoma. The Constitution, and not an order of the chief executive, is the supreme law of Oklahoma. The due process clause of the Constitution guarantees protection to the owner of property against deprivation by the militia as much as it guarantees protection to him against deprivation by any other person. The chief executive of the State does not relieve the courts of their duty to construe and apply the laws by placing a construction upon the laws and by calling out the militia to enforce that construction thereof. The duty of the chief executive to cause the laws to be faithfully executed vests him with the discretion to determine whether or not an exigency requiring military aid for that purpose has arisen. His decision of that question is conclusive upon the courts of this State, but, when the militia is called out for the purpose of enforcing the laws of the State, its actions, which operate to deprive owners of their property without due process of law, are subject to review by and to the control of those courts. As expressed by the Supreme Court of the United States in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra, it does not follow " . . . that every sort of action the governor may take, no matter how unjustified by the exigency or subversive of private right and the jurisdiction of the courts, otherwise available, is conclusively supported by mere executive fiat. The contrary is well established. What are the allowable limits of military discretion, and whether or not they have been overstepped in a particular case, are judicial questions."

In that case that court said:

"Instead of affording them protection in the lawful exercise of their rights as determined by the courts, he sought, by his executive orders, to make that exercise impossible. In the place of judicial procedure, available in the courts which were open and functioning, he set up his executive commands which brooked neither delay nor appeal."

That statement is applicable to the conditions existing in Oklahoma. Instead of affording the owners of property protection in the lawful exercise of their rights as determined by the courts, the chief executive of the State, by his executive orders, has sought to make that exercise impossible. In the place of judicial procedure, available in the courts which were open and functioning, he set up his executive commands which brooked neither delay nor appeal. As was said by the Supreme Court of the United States in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra, if it be assumed that the chief executive was entitled to bring military forces to the aid of civil authority, the proper use of that power was to maintain the courts and not to attempt to override them, and to aid in making the process of those courts effective and not to nullify them.

It is said that the decision of the Supreme Court of the United States in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra, is not controlling in this case for the reason that the facts in that case show that the governor of Texas sought to limit oil production otherwise lawful and that the chief executive of this State seeks to limit oil production to the amount that may be lawfully produced. That contention is not supported by the record in this case. There is nothing in the record in this case to show that this plaintiff is attempting to unlawfully produce oil, or that it has unlawfully produced oil. The question as to whether or not it has unlawfully produced oil and the question of whether or not it has attempted to unlawfully produce oil are questions of fact to be determined as a part of the due process of law which the plaintiff is entitled under the due process clause of the Constitution of Oklahoma. Neither the chief executive nor the military of this State may determine either question. The power to determine such questions is vested by the Constitution of this State in the corporation commission and the courts of this State.

U. S. Supreme Court Decision

While the decision of the Supreme Court of the United States in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra, is not controlling in this case, the principles of law announced and applied therein are controlling herein. By reason thereof it is unnecessary for this court to analyze all of the many decisions cited in the briefs of the parties to this litigation.

We hold that the taking possession of the property of this plaintiff by the militia under the authority of the executive orders was the taking of the property of this plaintiff without due process of law in violation of the Constitution of Oklahoma and without authority of law. It is evident that there is no adequate remedy at law for the redress of the injury sustained by the plaintiff. Section 6, Article 2, of the Constitution provides that the courts of justice of this State shall be open to every person, and speedy and certain remedy afforded for every wrong and for every injury to person, property or reputation. The trial court should have heard the evidence and should have made such order against the defendant, Cicero I. Murray and those acting under his command, as the evidence warranted.

It is contended that the petition of the plaintiff did not state a cause of action because the plaintiff did not allege therein that it was not overproduced and that it was not overproducing its wells. In a brief the defendants say:

"Of course, if the proration law and the corporation commission's orders were void, as alleged in the petition, though only as a mere legal conclusion, and if the district court had jurisdiction to so adjudge, then, of course, there was no duty or obligation on plaintiff in error's part to observe that law or those orders, and, therefore, no necessity for its alleging that it had done so or was willing to do so."

They contend that " . . . under no circumstances could plaintiff in error have been entitled to relief at the hands of the district court except upon ground that it had not overproduced and was not overproducing its wells . . . ." In effect, this is an assertion that the plaintiff did not come into a court of equity with clean hands. The trial court held that it did not have jurisdiction of the subject matter of the action. The asserted equitable defense may not be considered in determining whether or not a court has jurisdiction over the subject matter of the action. It is one to be considered when jurisdiction of the subject matter of the action exists. It does not go to the jurisdiction of the trial court to determine the issues. It goes to the question of whether or not equitable relief should be granted. Such a plea is no justification for the denial of relief against the military occupancy of the plaintiff's property without authority of law and in violation of the due process of law clause of the Constitution. The trial court held that it did not have jurisdiction of the subject matter and dismissed the cause for want of jurisdiction. It was in error in so doing. The Supreme Court of the United States in R. S. Sterling, Governor, et al, vs. E. Constantin, et al, supra, said that an appropriate answer to such a contention was found in Ex parte Milligan 4 Wall 2, 124, and quoted therefrom as follows:

" . . . Martial law established on such a basis, destroys every guarantee of the Constitution, and effectually renders the military independent of and superior to the civil power, . . . Civil liberty and this kind of martial law can not endure together; the antagonism is irreconcilable; and, in the conflict, one or the other must perish."

The one that must perish is determined by the provision of the Constitution of Oklahoma that the military shall be held in strict subordination to the civil authorities.

The trial court had jurisdiction of the subject matter to restrain the defendants, Cicero I. Murray and those acting under his command.

The judgment of the trial court is reversed and the cause is remanded to that court with directions to proceed in conformity with the views herein expressed.

ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ending February 11 follow:

	Bbls.
WYOMING	
Salt Creek	19,700
Big Muddy	1,950
Badger Basin	50
Dallas-Derby	560
Dutton Creek	70
Elk Basin	510
Ferris	30
Frannie	390
Grass Creek	1,660
Hamilton Dome	360
Hudson	370
LaBarge	810
Lance Creek	0
Lost Soldier	1,770
Midway	110
Osage	810
Pilot Butte	30
Rock River	1,500
Poison Spider	60
Teapot	10
Total Wyoming	30,740
MONTANA	
Buckley-Border	390
Cat Creek	760
Cut Bank	260
Dry Creek	20
Kevin-Sunburst	3,110
Lake Basin	50
Pondera	790
Total Montana	5,380
COLORADO	
Florence	180
Fort Collins and Wellington	660
Iles Dome	530
Moffat	580
Orchard	170
Rangely	90
Tow Creek	240
Total Colorado	2,450
NEW MEXICO	
Artesia	462
Caprock	705
Hogback	210
Jal	1,235
Table Mesa	50
Eunice	740
Hobbs	30,296
Lea	2,210
Texas-Pacific	99
Rattlesnake	725
Total New Mexico	36,731
Total Rocky Mountain area	75,301
Total previous week	76,187
Difference	886

HEARING ON PIPE LINE RATES

The Oklahoma Corporation Commission has set a hearing for March 2 on petition to determine pipe line rates and charges as now fixed by carriers serving the Oklahoma City Field. Heretofore the commission has not attempted to fix the rates charged by the carriers, and it is believed the commissioners are taking their cue from Texas where the Railroad Commission has ordered a general reduction in rates effective May 1.

JOHN T. WILSON DEAD

John T. Wilson, 76, pioneer of oil development, died in Tucson, Ariz., at the home of his daughter, Mrs. W. H. Wallace.

Wilson, a resident of Humboldt, Kans., was one of the early oil producers in Pennsylvania. He followed discovery of oil into West Virginia, Texas, Oklahoma and Kansas.

SPEEDY, WELL-SERVICING— STEADY POWER ANYWHERE

UP COMES 3200 feet of wet 2½-inch upset tubing—the "Caterpillar" Thirty-Five easily starts and hoists this heavy load with three lines in the derrick, at the second speed of the "Allsteel" winch. With the well pulled, the "Caterpillar"-powered outfit runs the tubing back in—has surplus braking area to slacken and hold the load to prevent a costly "fishing job."

And even equipped with rear-mounted winch, the "Caterpillar" Tractor has its drawbar free to handle big loads. Its broad, sure-gripping tracks have the proverbial traction to go wherever rugged, all-weather pulling power is needed.

Here's a balanced, versatile outfit that's built from the ground up to deliver better, quicker, cheaper results!

Caterpillar Tractor Co., Peoria, Ill., U. S. A.
Track-type Tractors Combines Road Machinery
(There's a "Caterpillar" Dealer Near You)

Prices—f. o. b. Peoria, Illinois

FIFTEEN	$1100	FIFTY	$3675
TWENTY	$1450	DIESEL FIFTY	$4500
TWENTY-FIVE	$1900	SEVENTY	$4750
THIRTY-FIVE	$2400	DIESEL SEVENTY	$6250

CATERPILLAR
REG. U. S. PAT. OFF.
TRACTOR

East Texas Overproduction Reported Increasing in Anticipation of New Court Decision

By L. E. BREDBERG

DALLAS, Tex., Feb. 13.—While Col. E. O. Thompson was in the East Texas Field investigating leases and checking field men of the Railroad Commission, reports advised that he was doing considerable good in the way of limiting overproduction, checking pipe line and refinery runs and in other work necessary to bring production down to the allowable. However, in talking with pipe line company representatives and others who are checking production and pipe line runs it is found that overproduction is again steadily gaining, especially since Mr. Thompson has gone back to Austin to take care of business there.

At the legislative investigation one commission employe testified that overproduction continued and that although only a few were guilty no one was stopping them, and that it would continue until a law was passed "having teeth in it."

Daily Average Runs

During the week ending February 9 distribution reports from the field showed a daily average of 307,750 bbls. run from the field. Over 39,700 bbls. were run to local refineries according to these reports, and as pipe line scouts do not have access to run sheets at the plants and have to take the refinery managers' or superintendents' word for it, runs to many of the plants are estimated to be much larger than reported. Tank car shipments by railroads are also gaining, the daily average for the week showing shipments of over 28,100 bbls., of which over 24,700 bbls. was loaded by trucks to the cars.

Producers who are against proration, those who are gradually looking at it from a different standpoint than heretofore, and those who are producing their properties merely in defense, and those who have a sale for more than the allowable, although at a lower price, and feel that they have no reason to be afraid of the state officials in expectation of a probable decision against the present method of proration, are gradually enlarging the daily production in the field, although for a short time they were held in abeyance. Proration has slipped, but is hanging on by a fairly strong line yet.

New Commission Hearing

The hearing to be held by the Railroad Commission in Austin on February 23 will again investigate the charges of overproduction and inquire into conditions since its last hearing, possibly taking up the proposal for an increased allowable. The commission's two hearings at Tyler the latter part of January had no apparent affect and gained no tangible results according to many who listened in, consequently another hearing is expected to have no more effect, especially if it is called before the three-judge Federal court decision is rendered.

Atlas Case Transferred

Although the State has been obtaining several injunctions each week to prevent operators from overproducing their properties, it failed on February 11 to obtain a temporary injunction from Federal District Judge James C. Wilson against the Atlas Pipe Line Co., the judge stating he lacked jurisdiction. The application will be taken to Travis County District Court at Austin.

The State asked an injunction to prevent Atlas Pipe Line Co. from interfering with railroad commission agents inspecting the company's books, gauging its tanks and inspecting pipe lines of or connecting with the company's lines, asserting that inspection of the company's records was essential in enforcement of its proration orders. The company is operating under an injunction.

May Increase Allowable

At the Austin hearing on February 23, Chairman Lon Smith, of the railroad commission, said that if conclusive proof was shown that a large amount of excess oil is being run and is finding a market, he would favor an increase in the allowable to permit legal production, properly prorated among all wells, to the amount of the actual production. If testimony shows need for a new order he said one would be promulgated.

The commission will also inquire into the physical condition of the field. All of those who have charged that excessive amounts of "hot" oil are being run from the field and who have registered other complaints will be given an opportunity to express their views.

War of Injunctions

Three companies were ordered by Judge James C. Wilson of Fort Worth not to interfere with the railroad commission's agents gauging of oil tanks and inspecting their lines and leases, while several injunctions were granted to the State preventing several operators from overproducing their leases. Agreements were reached in other cases to prevent the filing of other injunction applications.

On February 8 another suit was filed in Federal Court at Tyler against the State Railroad Commission. This suit attacks the marginal well and proration laws and asks for a three-judge court hearing. The plaintiff, Jim Cloud, Inc., a Delaware corporation, seeks a temporary injunction, contending that under the marginal well law, poor wells are permitted to produce up to 40 bbls. on pump while flowing wells, having larger potentials, were restricted to 28 to 31 bbls. per day, which action, it is claimed was discriminatory.

The suit also complained that the December shut down in the East Texas Field was unnecessary and confiscatory, permitting migration of oil to wells which had less pressure.

Locations and Completions

Only 28 locations were staked in the field this week, with four wildcat locations reported for other areas. Fifty-one wells were completed in the field, while five wildcats in other counties were abandoned as dry. Included in those abandoned as dry was Gardner Brothers' No. 1 John Leonard in the P. Mason Survey, Van Zandt County, given up as a dry hole at a total depth of 6,374 feet. This has been one of the most interesting wildcat tests in the district, testing the Trinity sand, which is below the Woodbine sand from which the Van Field, southwest of the test, and the great East Texas Field produce.

Hill County is to get two wildcat tests, Rusk County another and Navarro County one. The Rusk County wildcat is 8 miles northeast of Henderson.

Standardizing Wells

The Sinclair Prairie Oil Co. is apparently following the lead of the Magnolia Petroleum Co. which has standardized a good share of its wells in the district. The former company has ordered 100 stub derricks for pumping purposes, although at the present time it has only 18 wells on the pump.

Wildcatting Activities

The Jamestown area of Upshur County, several miles north of production in the East Texas Field, is apparently dry. Wadley and others' No. 1 Jones in the James M. Dunn Survey, which has been shut down for several weeks after having a reported sand from 3,684-96 feet, was swabbed this week and tested salt water. This is a key well of the area, and the showing in it had led to the drilling of several other tests, principally to the north. Wadley and others' No. 1 Hall in the McKey Survey, the northernmost test, is standing shut down at 3,784 feet.

Shell Petroleum Corp. and others' No. 1 Phillips in the Swayze Survey, Leon County, is now coring at 6,184 feet in broken sand which had streaks of oil saturation after failing to make a producer when tested again at 6,152 feet where it made only a rainbow showing of oil. It will drill in search of heavier saturation.

COMPLETIONS IN EAST TEXAS

South Gregg County

Finley & Dyke's No. 2 Blackman, top sand 3,686 feet, initial production 15 bbls. in 30 minutes through one-quarter-inch choke, total depth 3,688 feet. Burlingham and others' No. 3 H. E. Thomas (formerly Empire Gas & Fuel Co.), location abandoned. Houston Oil Co.'s No. 5 M. B. Hughey, top sand 3,479 feet, initial production 30 bbls. in 10 minutes through open tubing, total depth 3,518 feet. J. C. Hurley's No. 2 Hughey (formerly No. 1), top sand 3,493 feet, initial production 40 bbls. in 18 hours' pumping, total depth 3,569 feet.

Magnolia Petroleum Co.'s No. 9 S. Carr, top sand 3,466 feet, initial production 144 bbls. per hour through open tubing, total depth 3,477 feet; No. 2 Mary Goyne, top sand 3,617 feet, initial production 160 bbls. per hour through open tubing, total depth 3,631 feet; No. 3 W. B. Goyne, top sand 3,604 feet, initial production 184 bbls. per hour through open tubing, total depth 3,624 feet; No. 3 H. P. Hale, top sand 3,541 feet, initial production 5 bbls. per hour through open tubing, total depth 3,591 feet; No. 7 M. B. Hughey, top sand 3,504 feet, initial production 200 bbls. per hour through open tubing, total depth 3,512 feet. Mazda Oil Co.'s No. 3 J. A. King, top sand 3,643 feet, initial production 75 bbls. per hour through open tubing, total depth 3,648 feet. Jew Miller's No. 1 Andrews, top sand 3,645 feet, initial production 75 bbls. per hour through three-quarters-inch tubing choke, total depth 3,660 feet. Rhoads Drilling Co.'s No. 8 Sabine River, top sand 3,508 feet, initial production 30 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,521 feet.

Sinclair Prairie Oil Co.'s No. 14 A. A. Lockhart, top sand 3,606 feet, initial production 30 bbls. in 12 minutes through open tubing, total depth 3,615 feet.

Stroube & Stroube's No. 3 J. R. Bealls, top sand 3,537 feet, initial production 17 bbls. per hour through open tubing, total depth 3,560 feet. Sun Oil Co.'s No. 20

Important Drilling Wells in N.Y.-Penna. Gas Field Nearing Completion Stage

By SPECIAL CORRESPONDENT

CORNING, N. Y., Feb. 11.—From all parts of the New York-Pennsylvania gas field come reports of shut down operations because of heavy snow and cold weather the four days. No wells were completed in any of the gas areas in the big territory but some wells were drilling notwithstanding weather conditions.

The Mutual Gas Co.'s No. 12 Murray, in Farmington Township, Tioga County, Pennsylvania, which had been shut down several weeks because of pipe trouble, was being cleaned out preparatory to a resumption of drilling. Total depth is 3,756 feet. The York Penn Co.'s No. 1 Preston, in Lawrence Township, was drilling at 3,955 feet. Mellon Pollock's No. 2 Van Zile was drilling at 1,760 feet. G. K. Rogers' No. 1 N. E. French in Middlebury Township was reported below 100 feet and drilling. Elkland Oil & Gas Co. had a fishing job at No. 1 Van Dusen. A bailer was lost at 4,440 feet. The Conewango Gas Co. has commenced drilling on No. 1 Leonard in Farmington Township.

In Potter County, Pennsylvania, Morroe and others were drilling at 3,550 feet in No. 1 W. B. Cole. The Emporium Lumber Co.'s No. 1 fee was drilling at 6,304 feet. J. B. Reed and others shut down operations at No. 1 Champlin at 5,005 feet. This test was a great disappointment. It was low on structure all the way although the location previous to drilling was regarded as very favorable for big gas production. G. K. Rogers' No. 1 E. A. Coyle was drilling at 1,065 feet and Updegraff and others' test on the same land was drilling at a depth estimated at 4,590 feet. The Sylvania Corp. was running casing in No. 1 Phelps which is at a total depth of 5,162 feet. The top of the lime in this hole was found at 5,141 feet. It will not be long before the well will be a completion. G. K. Rogers is rigging up No. 1 Scutt in Hebron Township. The Potter Development Co.'s test on the W. H. Allen land near Roulette was drilling at 5,000 feet. The top of the Tully lime was found at 4,707 feet. The Tioga Gas Co. is building a rig on land of the First National Bank of Emporium in Shippen Township.

On the New York State side of the field where the gas pays lie at lesser depths than in northern Pennsylvania, the Geneva Natural Gas Co. was at 2,610 feet and shut down on No. 1 O'Connor. This was a test of what are regarded as deep horizons in Ontario County. Peterman and others stopped operations on No. 1 Mills at 1,150 feet and it is believed the test will be abandoned. It had some shallow gas showings. The Great Northern Gas Co.'s No. 1 fee in Ontario County was fishing at 510 feet.

In Allegany County, Kerr & Kaufman were reported rigging up on No. 1 Woodruff.

Progress was reported on a number of Steuben County wells but none of them was close to completion.

M. T. Cole, top sand 3,521 feet, initial production 48 bbls. per hour through tapered tubing, total depth 3,550 feet; No. 2 A. O. Norton, top sand 3,464 feet, initial production 99 bbls. per hour through open tubing, total depth 3,490 feet. Universal Oil & Gas Co.'s No. 2 Adkins, top sand 3,640 feet, initial production 90 bbls. per hour through open tubing, total depth 3,647 feet.

North Gregg County

Atlantic Oil Production Co.'s No. 11 J. Bander, top sand 3,606 feet, initial production 64 bbls. in 30 minutes through tapered tubing, total depth 3,672 feet. Byrd-Frost Oil Co.'s No. 3 J. J. Reppond, top sand 3,696 feet, initial production 180 bbls. per hour through 1-inch tubing choke, total depth 3,708 feet. L. C. Collins' No. 3 C. Fischer, location abandoned. East Texas Refining Co.'s No. 4 Caldwell (formerly No. 5), location abandoned; No. 6 F. White, location abandoned. Gresham & Hunter Corp.'s No. 4 T. P. Railroad, top sand 3,596 feet, initial production 33 bbls. per hour through open tubing, total depth 3,624 feet.

Magnolia Petroleum Co.'s No. 12 Everett, top sand 3,676 feet, initial production 140 bbls. per hour through 1-inch tubing choke, total depth 3,691 feet. McGee and others' No. 2 M. O. Sheppard, top sand 3,515 feet, initial production 65 bbls. per hour through open tubing, total depth 3,542 feet. B. F. Phillips and others' No. 1 Church Lot, top sand 3,709 feet, initial production 82 bbls. per hour through three-quarters-inch tubing choke, total depth 3,720 feet. Simms & Russ' No. 12 J. J. Flewellen, top sand 3,595 feet, initial production 20 bbls. in 15 minutes through open tubing, total depth 3,605 feet. Sun Oil Co.'s No. 6 Shoults, top sand 3,585 feet, initial production 36 bbls. per hour through open tubing, total depth 3,656 feet. Sun and Atlantic Oil Production companies' No. 6 M. Thomas, top sand 3,466 feet, initial production 35 bbls. per hour through tapered tubing, total depth 3,522 feet. Yount Lee Oil Co.'s No. 2-E J. C. and R. S. McKinley, top sand 3,591 feet, initial production 73 bbls. per hour through eleven-sixteenths-inch tubing choke, total depth 3,611 feet; No. 3-E McKinley, top sand 3,612 feet, initial production 73 bbls. per hour through eleven-sixteenths-inch choke, total depth 3,632 feet.

North Rusk County

Devonian Oil Co.'s No. 18 Motley, top sand 3,783 feet, initial production 50 bbls. per hour through three-quarters inch tubing choke, total depth 3,785 feet. Gulf Production Co.'s No. 11-A Christian, top sand 3,598 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,682 feet. Humble Oil & Refining Co.'s No. 69 L. D. Crim, top sand 3,613 feet, initial production 100 bbls. per hour through three-quarters inch tubing choke, total depth 3,627 feet; No. 6 J. Wooley, top sand 3,694 feet, initial production 97 bbls. per hour through three-fourths inch tubing choke, total depth 3,774 feet. Magnolia Petroleum Co.'s No. 5 N. Bean, top sand 3,532 feet, initial production 60 bbls. per hour through open tubing, total depth 3,573 feet; No. 9 C. C. Still, top sand 3,658 feet, initial production 100 bbls. per hour through open tubing, total depth 3,679 feet. Pearce & Moore's No. 1 Rector Baton, top sand 3,589 feet, initial production 85 bbls. per hour through three-quarters inch tubing choke, total depth 3,648 feet.

South Rusk County

Gulf Production Co.'s No. 9-B Ida Holt, top sand 3,790 feet, initial production 60 bbls. per hour through three-quarters inch tubing choke, total depth 3,798 feet.

Humble Oil & Refining Co.'s No. 15 J. W. Turner, top sand 3,599 feet, initial production 64 bbls. per hour through 1-inch choke, total depth 3,717 feet. J. E. Mabee and Tidal Oil Co.'s No. 4 J. B. Wilson, top sand 3,649 feet, initial production 30 bbls. in 15 minutes through open 2½-inch tubing, total depth 3,658 feet. Mid-Kansas Oil & Gas Co.'s No. 7 Clay heirs, top sand 3,552 feet, initial production 32 bbls. per hour on 2-inch lead, total depth 3,666 feet; No. 40 M. C. Cross, top sand 3,626 feet, initial production 116 bbls. per hour on 2-inch lead, total depth 3,632 feet. Orr and others' No. 1 J. C. Hale, top Pecan Gap 2,590 feet, top Austin chalk 3,440 feet, at 3,620 feet had 2 feet hard, tight, light brown sand, dry and abandoned in lime, total depth 3,803 feet, M. V. Pena Survey. J. C. Sandford's (formerly Sandifer and others') No. 1 L. J. Pinkston, top sand 3,592 feet, initial production 45 bbls. in 30 minutes through three-quarters inch choke, total depth 3,622 feet. David Donoghue's (formerly Sibling & Williams' No. 3 Goforth) No. 1 Goforth, top sand 3,745 feet, initial production 32 bbls. per hour through 1½-inch choke, total depth 3,750 feet. Stanolind Oil & Gas Co.'s No. 2 Bettie Coleman, top sand 3,609 feet, initial production 30 bbls. in 45 minutes through three-quarters inch choke, total depth 3,653 feet. Sun Oil Co.'s No. 5 R. J. Hendon, top sand 3,541 feet, initial production 42 bbls. per hour through open 2-inch tubing, total depth 3,584 feet.

East Central Texas Wildcats

Week Ending February 13

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks
Barclay et al's No. 1 J. C. Beard, 150 ft. out of most westerly NE cor. of 178-ac. lease, J. Trimmer Sur.	S.D. 1,513 ft.
C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in S½ of 129-ac. tract, M. Main Sur.	T.D. 1,538 ft.

ANGELINA COUNTY

Crosbie et al's No. 1 John C. Davis, 150 ft. from N of center of tract and survey, John H. Graham Sur.	Drlg. 850 ft.
W. J. Chandler's No. 1 L. J. Dearman, 350 ft. from S and W lines of 20-ac. tract, J. T. Peavy Sur.	S.D. 1,680 ft.
H. C. Jennings et al's No. 1 Colmorgan, 150 ft. from N line and 1,300 ft. from E line of 200-ac. tract, 4 miles N of Lufkin, J. Messingill Sur.	Rigging up.

BOWIE COUNTY

Roy Anderson's No. 1 Dyk.a, 3 miles W of Texarkana, M. Dykes Sur.	Drill stem test 3,033-43 ft.; showed 800 ft. salt water in 10 min.
Tom Bell et al's No. 1 C. M. Moss, 1,800 ft. from N line and 2,160 ft. from W line of 465-ac. tract and survey, O. D. Walton Sur.	S.D. 1,800 ft.

CHEROKEE COUNTY

Barkley Tate et al's No. 1 H. E. Neal, 330 ft. from N and W lines of tract, J. M. Prosella Sur.	Derrick.
Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur.	Drill stem test 3,625-56 ft.; made 17 fourbles oil, 3 fourbles mud in 13 min.; T.D. 3,665 ft.; swabbed; goes dead; making some salt water.
L. J. Hopcroft et al's No. 1 J. R. Taylor, 2,600 ft. from E line and 2,000 ft. from S line of survey, G. M. Doherty Sur.	Location.
Loring Oil Co.'s No. 1 F. M. Swearingen, 330 ft. from S and E lines of 68-ac. tract, 2,800 ft. from W line and 330 ft. from S line of survey, Oliver Lund Sur., 1 mile SW of Maydelle	T.D. 5,005 ft.; red shale; fishing rig.
Mid-Tex Oil Co.'s No. 1 A. Pace (formerly Clopton), 288 ft. from N line and 330 ft. from most northerly E line of 40-ac. lease, Wesley Dikes Sur.	T.D. 3,665 ft.; preparing to swab; top sand 3,662 ft.
Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur.	Prepare to deepen; T.D. 3,600 ft.

DELTA COUNTY

Commerce Oil Co.'s No. 1 Ablowich, 150 ft. from S line and 776 ft. from W line of H. D. Jewett 52-ac. tract, E. Chick Sur.	S.D. 3,813 ft.

ELLIS COUNTY

Armstrong Bros.' No. 1 Reeves	S.D. 300 ft.
Armstrong Bros.' No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur.	S.D. 1,435 ft.
George Beasley's No. 1 Francis Borck, 850 ft. from SW line and 350 ft. from S and E lines of tract and grant, 11 League grant	Rig up.
Clark Brooks' No. 1 Anderson, SE cor. of 3,900-ac. tract, 10 miles SW of Waxachachie, E. C. Branch Sur.	S.D. 1,650 ft.
Paris Oil Co.'s No. 1 O. S. Bain, 1,500 ft. from S line and 300 ft. from W line of 60-ac. lease, R. M. Williams Sur.	S.D. 985 ft.

FANNIN COUNTY

Lauther Kenn et al's No. 1 Steren, center of survey, 3 miles SW of Ladonia, John Wills Sur.	Top Pecan Gap 440 ft.; S.D. 625 ft.; chalk.

FRANKLIN COUNTY

Whiteoak Oil Co.'s No. 1 O. C. Clanton, 750 ft. from S line of survey and 150 ft. from W line of survey, S. McCreary Sur.	Rigging up.

FREESTONE COUNTY

Clyde Creighton's No. 1 Holley Bros., 854 ft. from W line and center of N and S lines of lease, A.B.M. Sur.	S.D. 3,850 ft.; shale.

GREGG COUNTY

Bay Oil Corp.'s No. 5 J. M. Wheeler, 150 ft. due N of Pelphrey Bros.' No. 1 Wheeler, D. Ferguson Sur.	Derrick.
Burke Royalty Co.'s No. 1 Carr, center of 200-ac. tract and lease, M. McCurry Sur.	Waiting on cmt. to set 3,455 ft.
A. P. Carr's No. 2 Richey, 150 ft. from E line of lease and N offset to Marine's No. 1 Richey, William Carlton Sur.	Waiting on cmt. to set; T.D. 3,485 ft.
Daniels & Sheppard's No. 1 W. P. Crews, N offset to Boggett & Bayer's No. 1 Herions of Jerico, J. W. Bradshaw Sur.	Waiting on cmt. to set; T.D. 3,731 ft.
Darby Petroleum Co.'s No. 6 W. H. Ritchie, E offset to A. P. Carr's No. 2 Ritchie, H. Edwards Sur.	Rigging up.
Joe Edgar et al's No. 2 Stinchcomb, 79 ft. N and 36.4 ft. W of most northerly SW cor. of Stanolind's Key lease, W. H. Hart Sur.	Moving in.
E. & F. Oil Co.'s No. 2 M. Jackson, 330 ft. from S line and center of E and W lines of 16.66-ac. lease, G. F. Penn Sur.	Derrick.
Faith Oil Co.'s No. 4 J. C. Barrett, B. W. Witcher Sur.	Rig up and S.D.
S. A. Gaskill's No. 2 Godfrey, SW offset to Waggoner & McConnell's No. 1 Smith in Blk. 32, M. Dillard Sur.	S.D. 3,345 ft.; shale.
Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.2-ac. tract, M. Dillard Sur.	Derrick.
Gulf Production Co.'s No. 34 J. C. Judge, 610 ft. E and 330 ft. S of most northerly NW cor. of lease, F. W. Johnson Sur.	S.D. 2,685 ft.; chalk.
P. L. Hoffman's No. 3 Phillips, 330 ft. from W line and center of N and S lines of lease, D. Ferguson Sur.	Rig up.
Humble Oil & Refining Co.'s No. 19 Hughes, 1,676 ft. S and 380 ft. from E lines of Tract No. 2, D. Sanches Sur.	S.D. 2,625 ft.
Humble Oil & Refining Co.'s No. 10 H. M. Lawrence, 1,515 ft. N and center of E and W lines of lease, D. Ferguson Sur.	T.D. 3,622 ft.; waiting on cmt.
Humble Oil & Refining Co.'s No. 4 W. C. Mackey, 300 ft. from N and 330 ft. from W lines of lease, H. F. Rodgers Sur.	Drlg. 2,700 ft.
B. K. Isaacs, trustee's No. 1-B T. B. Harris, S of Woodley's No. 1 in W. H. Castleberry Sur.	T.D. 3,545 ft.; testing.
E. M. Jones' No. 1 L. D. Crim, 330 ft. from N line and center of E and W lines of 10-ac. tract, M. V. Winkle Sur.	Waiting on standard rig 3,650 ft.
Edwin Lacy's No. 2 fee, center of 1¼-ac. tract, M. V. Winkle Sur.	Location.
Jack T. Life's No. 1 B. Moore, center of 1.75-ac. lease, D. Moore Sur.	Rig up and shut down.
Lion Oil & Refining Co.'s No. 3 Evans, S offset to Sinclair Prairie's No. 10 Williams, P. McAnnelly Sur.	Derrick.
Magnolia Petroleum Co.'s No. 4 C. Jones, 330 ft. from N and W lines of lease, G. W. Hooper Sur.	Moving in.

(Continued on Page 40)

Smith County

Sinclair Prairie Oil Co.'s No. 17-C Jarvis, top sand 3,690 feet, initial production 30 bbls. in 15 minutes through open 2½-inch tubing, total depth 3,692 feet.

Upshur County

Everetts Oil Co.'s No. 5 A. J. Sanders, top sand 3,631 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,656 feet.

Magnolia Petroleum Co.'s No. 7 N. W. Blackwell, top sand 3,688 feet, initial production 100 bbls. per hour through three-quarters inch tubing choke, total depth 3,698 feet. Waggoner & McConnell's No. 3 Williams, top sand 3,653 feet, initial production 35 bbls. per hour through open tubing, total depth 3,670 feet.

WILDCAT COMPLETIONS

Harrison County

Flannagan-Foster and others' No. 1 D. W. Davidson, top Pecan Gap 2,504 feet, base 2,997 feet, top Austin chalk 3,787 feet, base 3,827 feet, dry and abandoned, total depth 3,860 feet, J. T. Bullock Survey, elevation 364 feet.

Hill County

T. J. Spikes' No. 1 M. H. Davis, top Eagleford 1,320 feet, base 1,333 feet, top Woodbine sand 1,333 feet, base 1,334 feet, top Austin chalk 727 feet, base 1,030 feet, dry and abandoned, total depth 1,550 feet, Lowe Survey, elevation 486 feet.

Smith County

McRobie and others' No. 1 C. P. Hamilton, location abandoned, Jackson Rector Survey. Mundt and others' No. 1 W. E. Murry, top Pecan Gap 3,496 feet, base 4,000 feet, top Austin chalk 4,436 feet, top sand 4,849 feet, dry and abandoned, total depth 4,875 feet, Marshall Winn Survey, elevation 579 feet.

Van Zandt County

Gardner Brothers' No. 1 John Leonard, top Pecan Gap 2,340 feet, base Pecan 2,410 feet, top Austin chalk 3,475 feet, base 3,781 feet, top Paluxy 6,050 feet, elevation 509 feet, dry and abandoned, total depth 6,374 feet.

Van Field, Van Zandt County

Pure Oil Co.'s No. 10 A. D. Clark, initial production first 24 hours after choked estimated 35 bbls., total depth 2,892 feet; No. 4 B. W. Russell, initial production first 24 hours after choked estimated 35 bbls., total depth 2,966 feet.

PLAN COMMUNITY GARDEN

WICHITA FALLS, Tex., Feb. 11.—The Panhandle Refining Co., which operates a refinery here, has completed arrangements for a community garden near the plant for employes.

The company is furnishing 27 plots 50 by 60 feet covering 3,000 square feet. In addition the company will prepare the land, furnish seed and water for irrigation of the plots. The employes will cultivate the gardens to provide spring vegetables for their homes. Each employe receives all that he can raise on the plot.

Still Working on Ordovician Test in Crockett; Interesting Test West of the Yates Field

By L. E. BREDBERG

Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Feb. 13.—Stanolind Oil & Gas Co. and others' Ordovician test on the Todd ranch, in Section 67, Block UV, G.C.&S.F. Survey, Crockett County, is to be plugged back from total depth of 8,040 feet to treat with acid in an effort to disintegrate the saturated lime formation and make a producer, and if that fails will then shoot. Sulphur water was swabbed from the bottom of the hole, discouraging the owners from drilling further in search of oil. The water could not be swabbed down.

While this deep test did not encounter production to perpetuate leases on the 4,000-acre block, the company's No. 2 Todd, drilled in search of shallow production found in this area, topped the pay at 1,462 feet and drilled in 1 foot making around 130 bbls. in 12 hours. It is 2½ miles northwest of the deep test and is in the NW cor., Section 28, Block WX. This makes the second shallow producer drilled in the area. Continental Oil Co. drilled in a shallow well a couple of weeks ago on its lease in Section 26.

Continental Oil Co.'s No. 1 Todd in Section 23, same block, has been abandoned at a total depth of 2,177 feet and the same company's No. 1-B Todd in Section 31, struck 1½ bailers of sulphur water per hour at 1,312-20 feet and 3 bailers per hour at 1,340-50 feet. It is drilling at 1,365 feet.

Northern Ector

Landreth Production Co.'s No. 1 Holt in Section 15, Block 43, Township 1n, T.&P. Survey, northern Ector County, still remains in a state which does not give definite reports as to the results of shooting it last week. Tools are still stuck in the hole after running them in an effort to knock bridge out of hole following the shot of 120 quarts from 4,300-30 feet. Cleaning out will have to be accomplished before anything definite will be known about the test.

West of Yates

A most interesting test is to be drilled by the Humble Oil & Refining Co. approximately 9 miles west of the Yates Field, Pecos County, on the White and Baker ranch. It will be located in the NE Section 44, Block Z, Texas Central Railroad Co. Survey. This will be the first test to be drilled to the Ordovician lime in Pecos County, and heavy rotary equipment is being moved from the Gulf Coast to the location for drilling the test. It will go to 7,000 feet unless the Ordovician is encountered above that depth. The company recently acquired leases on several sections around the location, and it held leases on several other sections in the vicinity of Section 44.

Howard County

C. E. Hyde of Westhyde Development Co., Fort Worth, has assembled a block 4 miles southwest of Big Spring in Howard County, surrounding Section 4, Block 33, Township 1s, T.&P. Survey, and will drill a test. The block is just 2 miles northeast of two small wells owned by the Continental Oil Co., locations of these wells being in Sections 18 and 19 of the same block. They are producing 20 to 25 bbls. each per day.

The Eppenauer Drilling Co. is moving material to Section 25, Block 33, northwest of Big Spring. The location is on a parallel trend to the Howard-Glasscock County Pool and will be an interesting test for the area.

A deep test is to be drilled in the N half of Section 137, Block 29, in the Chalk-Roberts Pool, Howard County. Amerada Petroleum Corp. is interested in this test.

Another deep test proposed for Glasscock County is to be located in Section 4, Block 32, Township 5s, T.&P. Survey, in the southeastern part of the county. Stanolind Oil & Gas Co. and the California Co. will drill this test.

Pecos County

Another interesting test for Pecos County is to be drilled by E. M. Wahlenmaier of San Angelo. Amerada Petroleum Corp. has farmed out its block of approximately 5,000 acres just north of Sheffield in Pecos County for a half interest in the 2,500-foot test which is to be located in Section 41, Block 1, I.&G.N. Survey. The test is to be spudded by March 1.

Reagan County

Big Lake Oil Co. has treated its No. 144 University well in the Big Lake Field, Reagan County, with 750 gallons of acid, and raised the production from 23 bbls. of fluid per day, 10 bbls. of which is oil and 13 bbls. of water, to 174 bbls. of fluid, 36 bbls. of which is oil and the remainder water. This is the first well in this field to be so treated and due to the response to the treatment the company and Group No. 1 Oil Corp. and Continental Oil Co., owners of many other producers in the field, will no doubt treat all other wells in an effort to raise their production.

Ward County

Renaud and Prettyman are to drill a test three-quarters of a mile west of their No. 1 University on the south end of the O'Brien-Hutchings area in Ward County. Location for the test is in the southwest quarter of Section 8, Block 16, University lands. The test will give additional information on the area, possibly extending it to the west and widening the pool. Gulf Production Co. drilled an east offset to the No. 1 University well of Renaud and Prettyman, but it made some water with the oil. The company is plugging back and experimenting with some casing in an effort to shut off the water.

Sutton and Crockett

The Superior Oil Co. of California has taken leases on approximately 13,000 acres in Sutton County and over 700 acres in Crockett County, the leases having been purchased before the latter part of December, 1932, but just now being recorded. Leasing of such a large block will no doubt eventually lead to the testing of the area.

WICHITA FALLS

A deal is reported to have been made between Paul S. Oles of Wichita Falls and the Danciger Oil & Refining Co. whereby the latter company will drill a 3,500-foot test which may later be carried to 6,000 feet by the Sinclair Prairie Oil Co. The test will be on a 15,000-acre block in northwestern Wise County around Chico, which was taken by the Prairie Oil Co. in 1928. The Sinclair Prairie Oil Co. retained 5,000 acres in the center of this original block, assigning the majority of 110 leases to Paul S. Oles and others, but retaining protection acreage around the test. The block was taken on surface structure which was checked by drilling from 20 to 30 core drill holes.

Cottle County

Darby Petroleum Co. and Merry Brothers and Perini are abandoning their No. 1 Pursell test in Section 40, Block B, John H. Stevens Survey, Cottle County, at a total depth of 4,740 feet in granite. It encountered a hole full of water at 4,718 feet. The only showing it had was gas between 2,905-30 feet.

Bridwell Oil Co.'s first test on its large block in southeast Archer County has been abandoned at a total depth of 1,014 feet. It topped the Gunsight lime at 901-15 feet. Elevation is 1,106 feet. Other tests are to be drilled on the block.

Consolidated Oil Co.'s No. 1 Kinder in Archer County showed signs of opening a new pool for this county, but tested only small showing of oil and water at 1,330-38 feet and has been abandoned. Elevation is 1,014 feet. Another test is to be drilled in this area.

Deep Oil Development Co.'s No. 1 Munger Estate, the discovery well of Strawn production in Wichita County, which has been producing for two years from lime and sand between 3,600 and 3,900 feet, responded to acid treatment when 1,800 gallons of acid with a 40-bbl. load topped by 240 pounds pressure was applied to the well. It was making only 82 bbls. per day, pumping, before the treatment and after the treatment made 110 bbls. of oil and 25 bbls. of water. It was making some water before treating.

Young County

A block has been taken in northeast Young County for a deep test in Blocks 2,794, 2,795, 2,796 and 2,797, T.E.&L. Survey, and in vicinity of these blocks of the survey. The test will be a short distance east of Sun Oil Co.'s No. 1 Ferguson, a deep dry hole. Eight shallow dry holes have been drilled in the area.

Another block in central Young County is being taken for a 3,800-foot test. The block surrounds Section 465, T.E.&L. Survey.

PANHANDLE

Skelly Oil Co. has erected an eight-car loading rack at Le Fors in Gray County to ship oil from its G. H. Saunders lease, 1 mile southeast of the town, to the Utah Refining Co. at Salt Lake City. The company has no outlet for its oil except this tank car loading rack. Oil from offset leases may be shipped from the same rack to Salt Lake City.

The Panhandle district has been producing under the daily allowable set by the Railroad Commission, the purchasers in the district cutting their nominations above that amount.

The Badger Oil Co., owned by men of Amarillo, will sell approximately 1,300 acres of leases in the Badger Pool, southeast of Borger in Hutchinson County, including five producing wells having a total potential production of approximately 450 bbls. daily. The sale will bring the vendor a cash price of $300,000. A Cincinnati, Ohio, group has offered that amount for the properties. The Badger Oil Co. was organized in 1926. B. C. D. Bynum is president. Sam Seay is vice president, and Wales Madden, secretary-treasurer.

Wildcat Operations in West Texas

Week Ending February 13

BREWSTER COUNTY

Company, well, farm name, section and block—	Remarks:
Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur.	S.D. 1,935 ft.
E. L. Chapman's No. 1 Skinner, C SW SE Sec. 100, Blk. 2, G.C.&S.F. Sur.	S.D. 1,302 ft.
Joiner's No. 1 McIntire, 853 ft. from S and 2,390 ft. from E, Sec. 31, Blk. 352, W. J. Mitchell Sur.	S.D. 600 ft.
Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 16, Blk. G-15, G.C.& S.F. Sur.	S.D. 2,900 ft.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 miles south Alpine	S.D. 1,750 ft.

CONCHO COUNTY

Heasley et al's No. 1 Waring Estate, 400 ft. from N and E. Sec. 163, T.&N.O. Sur.	T.D. 2,586 ft.; pumping 5 bbls. oil per day and some water.
Mann et al's No. 1 Hartgrove, 150 ft. from N and 75 ft. from E, Sec. 6, T.&N.O. Sur.	Location.
Chambers et al's No. 1 Hoover, 1,650 ft. N and 330 ft. from E, Sec. 1, Blk. FF, B.&B. Sur.	S.D. 2,100 ft.; tested 5 bbls. per day after shots.
Continental Oil Co.'s No. 1 Todd, 660 ft. from S and E of Sec. 33, Blk. WX, G.C.&S.F. Sur.	Drlg. 2,125 ft.
Continental Oil Co.'s No. 1-B Todd, 660 ft. from N and E, Sec. 31, Blk. WX	Drlg. 856 ft.
Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur.	Spudded and S.D
Stanolind Oil & Gas Co. et al's No. 1 Todd, 1,370 ft. from N and 1,320 ft. from E, Sec. 67, Blk. UV, G.C.&S.F. Sur.	T.D. 8,042 ft.; testing.
Stanolind O. & G. Co.'s No. 2 Todd, 660 ft. from N and W, Sec. 28, Blk. WX	Drlg. 800 ft.
The Texas Company's No. 1 E. B. Ingham, 330 ft. from S and 2,330 ft. from E line, Sec. 36¼, I.&G.N. Sur.	To set 8¼-in. csg. at 1,773 ft.
J. D. Young Co.'s No. 1 Shannon, 330 ft. from N and W, Sec. 35, Blk. 1, G.C.&S.F. Sur.	S.D. 2,235 ft.

CULBERSON COUNTY

Harris & Haun's No. 1 fee	S.D. 2,670 ft.
Milton-Dorsey's No. 1 Biggs, 4,181 ft. from N and 150 ft. from E, Sec. 2, Blk. 112, P.S.L. Sur.	Location.

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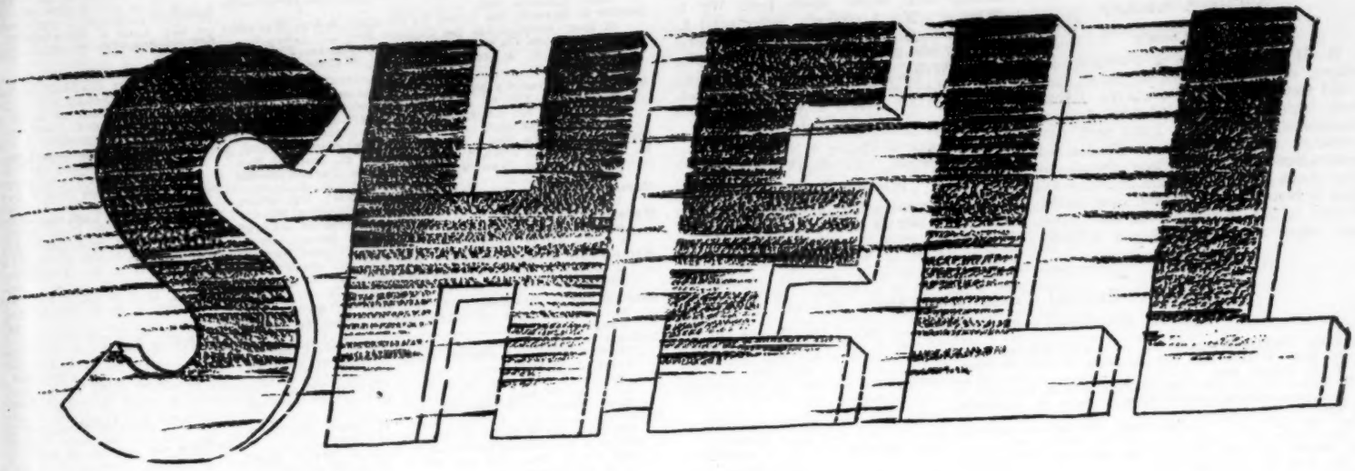
COMPLETIONS IN WEST TEXAS

Howard County

Harrison and others' No. 3 Denman, top pay 2,613 feet, shot with 500 quarts from 2,683-2,847 feet, initial production 10 bbls. of oil per hour for 2½ days, total depth 2,858 feet.

Ward County

Gulf Production Co.'s No. 15 Hutchings, top salt 1,310 feet, top pay 2,518 feet, initial production 210 bbls. in 12 hours, total depth 2,772 feet; No. 23 O'Brien, top salt 1,346 feet, top pay 2,610 feet, initial production 187 bbls. in 24 hours, total depth 2,773 feet. Skelly Oil Co.'s No. 1 Brillhart, top pay 2,500 feet, initial production 18 bbls. per hour, with 15,000,000 feet of gas daily, total depth 2,505 feet. Thompson's No. 2 Johnson, top pay 2,291 feet, initial production 502 bbls. daily, total depth 2,



FOR
POWER
PICK-UP
and
SPEED

532 feet. Abell Brothers' No. 1 Hayzlett, top salt 780 feet, dry and abandoned, total depth 2,537 feet.

Concho County

Simmons' No. 1 Schultz, dry and abandoned, total depth 1,504 feet.

COMPLETIONS IN NORTH TEXAS (WICHITA FALLS)

Archer County

H. H. Fraser's No. 2 Plowman and others, dry and abandoned, total depth 1,454 feet. Bridwell Oil Co.'s No. 1 Bridwell, water sand 1,010-14 feet, dry and abandoned, total depth 1,014 feet. Consolidated Oil Co.'s No. 1 Kinder, oil sand 1,330-38 feet, dry and abandoned, total depth 1,338 feet. Fain McGaha Oil Corp.'s No. 1 Morrison, oil sand 1,338-40 feet, initial production 150 bbls. daily, total depth 1,340 feet. King & Krahenbuhl's No. 1 E. H. Ikard, trace oil 1,040-47 feet, dry and abandoned, total depth 1,101 feet. Knight & Martin's No. 1 Portwood, dry and abandoned, total depth 1,380 feet. J. I. Staley and others' No. 1 Archer County, slight show of oil 996-1,010 feet, shot with 30 quarts, estimated 7 to 8 bbls. daily, dry and abandoned, total depth 1,048 feet. W. L. Wheeler's No. 1 Penartz, water sand 1,060-68 feet, dry and abandoned, total depth 1,068 feet. White & Duncan's No. 15 S. Webb, oil sand 692-704 feet, initial production 60 bbls. daily, total depth 704 feet.

Clay County

Willibanks & Henley's No. 1 Fry, dry and abandoned, total depth 902 feet.

Wichita County

E. J. Stump's No. 2 Chilson, broken oil sand 1,812-23 feet, water sand 1,823-

(Continued on Page 44)

East Central Texas Wildcats

(Continued from Page 37)

Magnolia Petroleum Co.'s No. 1 J. H. Beavers, 318 ft. from N line and 372 ft. from E line of lease, T. R. Rains Sur. ..... Location.

J. H. Massie et al's No. 5 Molly Finn, 660 ft. N of No. 4 and center of E and W lines of lease, H. Edwards Sur. ..... Drlg. 2,685 ft.; chalk.

Masda Oil Co.'s No. 1 J. A. King, 330 ft. from S and 89 ft. from E lines of lease, W. P. Chisum Sur. ..... S.D. 1,550 ft.

J. C. Means' No. 4 W. D. Luce, SW offset to Blue Star's No. 3-G, E. L. Walker Sur. ..... Rig up.

Midfield Oil Co.'s No. 2 Sample, 300 ft. S of East Texas' No. 1 Sample, W. P. Chisum Sur. ..... T.D. 3,722 ft.; swabbing.

Hajo Oil Co.'s No. 3 Barrett, 378 ft. from N line and 330 ft. from W line of lease, B. W. Witcher Sur. ..... Derrick.

Ray Drilling Co.'s No. 5 L. H. Tubbs, 320 ft. from E line of lease, D. Sanchez Sur. ..... Swabbing; T.D. 3,607 ft.

Reserve Pet. Co.'s No. 1 A. Godfrey, 458 ft. at right angles from most northerly S line and 324 ft. W at right angles from most southerly W line of Shell's P. B. Bates lease, M. V. Winkle Sur. ..... S.D. 2,950 ft.

Sun Oil Co.'s No. 3 A. G. Norton, 330 ft. from W line of lease and 660 ft. S of No. 2, S. Baggett Sur. ..... Moving in.

W. C. Turnbow's No. 2 McKinley, 125 ft. N and 420 ft. E of NE cor. of Yount Lee's Harley lease, D. Sanches Sur. ..... Derrick.

C. W. Wilks' No. 1 S. Carr, center of 4½-ac. tract, M. McCurry Sur. ..... Set surface csg.

Y Oil Co.'s No. 2 A. M. Kinsel, 330 ft. from E line and center of N and S lines of lease, H. Kirk Sur. ..... T.D. 3,661 ft.; will not flow; waiting orders.

HENDERSON COUNTY

Brownsboro Oil Co.'s No. 1 J. T. Debman, center of N 40 acres of Debman 80-ac. tract, J. N. Salvin Sur. ..... S.D. 4,105 ft.

Dr. J. T. Kennon et al's No. 1 Rowe & Baker, 1,320 ft. from N line and 150 ft. from W line of survey and tract, Josiah T. Childress Sur. ..... S.D. 3,905 ft.

H. H. Meyer's No. 1 M. E. Olson, 2 miles S of Brownsboro tract in NW cor. of survey, George Wilson Sur. ..... S.D. 3,748 ft.

HILL COUNTY

Graves & Rose's No. 1 Halderman, 150 ft. from N and E lines of 80-ac. lease, W of Mount Calm, A. C. Graves Sur. ..... Drlg. 250 ft.

Mahon et al's No. 1 McGuffey, 620 ft. from S and 150 ft. from E line of 200-ac. tract, 4 miles NE of Mount Calm, F. & N. Scrutchfield Sur. ..... Drlg. 540 ft.

HOPKINS COUNTY

Burgess and Simson's No. 1 First Natl. Bank, 470 ft. N and W of SE cor. D. Bule Sur., but located in the H.E.P.&P.R.R. Sur. ..... S.D. 2,155 ft.

HUNT COUNTY

A. Kelsey et al's No. 1 W. R. Berry, 450 ft. from S line and 300 ft. from E line of 139-ac. tract, J. Reads Sur. ..... Location.

KAUFMAN COUNTY

Hay-Bentley-Brewer et al's No. 1 J. B. Hunter, 300 ft. from S line and 150 ft. from SE line of 500-ac. tract, 4 miles S of Terrell, R. Sowell Sur. ..... Rigging up.

LAMAR COUNTY

Doyle and Jondeau's No. 1 Martin, 990 ft. from N line and 330 ft. from E line of tract, Joseph Deck Sur. ..... Rig up; T.D. 3,446 ft.

LEON COUNTY

Alladay et al's No. 1 W. R. Thompson, 330 ft. from N line of survey and 330 ft. from E line of 98-ac. tract, N. M. Allen Sur. ..... S.D. 2,170 ft.

Shell-Penn & Black's No. 1 W. M. Phillips ..... Drlg. out cmt. 6,155 ft.

LIMESTONE COUNTY

Miller Drilling Co. and Joiner's No. 1 J. A. Stephenson, 400 ft. from S line and 300 ft. from E line of lease, one-fourth mile SE of Kosse, Charles Welch Sur. ..... S.D. 3,140 ft.

MORRIS COUNTY

Grover Hart's No. 1 Walcott and Lott, 350 ft. from N line and 330 ft. from E line of survey, 3 miles S of Carson, B. A. Russell Sur. ..... S.D. 1,896 ft.

Joiner & Harris Drilling Co.'s No. 1 Clayton Brown, 1,625 ft. N. of most easterly SW cor. of survey, William M. Coffey Sur. ..... S.D. 1,550 ft.

Leonard's (Tucker-Fullwood) No. 1 P. M. Staggers, 450 ft. from N line and 150 ft. from E line of 45-5-ac. tract, J. D. Nelson Sur. ..... Fishing; T.D. 3,679 ft.

NAVARRO COUNTY

E. B. Godding et al's No. 1 Lela Kelt, 450 ft. from E line and center of N and S lines of lease, 3 miles NE of Chatfield ..... Bldg. derrick.

RED RIVER COUNTY

Aje Oil Co.'s No. 1 Nickels & Daniels, center of S 750 acres of 1,506-ac. tract, 8 miles N of English, Hugh B. Shaw Sur. ..... Location.

Concord Oil Co.'s No. 1 J. R. Dallahunty, 800 ft. from N of Isaac Moore Sur. and 300 ft. E of E line of Robert Glass Sur. ..... S.D. 2,827 ft.

L. G. Priest's No. 1 R. W. Peck, 900 ft. N and 500 ft. S of southerly SE cor. of 320-ac. tract, A. Wagley Sur. ..... S.D. 1,302 ft.

ROCKWALL COUNTY

Buccaneer Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tract in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.; S.D.

RUSK COUNTY

G. S. Anderson's No. 5 Frederick, 300 ft. from S line of lease and midway between Nos. 2 and 3 and N offset to Lion's No. 2 Jobe, Juan Ximenes Sur. ..... Derrick.

Big Indian Oil Co.'s No. 1 Joe Lee, 173 ft. from S line and 990 ft. from W line of 34-ac. lease, Peter Tipps Sur. ..... Swabbed through tubing showed some salt water; S.D. 3,644 ft.

T. E. Castle's No. 1 R. H. Gary estate, 3,960 ft. from N line and 5,280 ft. from W line of survey, 10 miles S of Henderson, A. Latham Sur. ..... S.D. 3,812 ft.

Fair & Thompson's No. 2 Bradford, 150 ft. from N and E lines of E 16.5-ac. lease, Juan Ximenes Sur. ..... Rig up.

A. P. Gary's No. 2 Redwine, center of Blk. No. 9, in Juan Ximenes Sur. ..... Location.

Griffin & Barnes' No. 1 fee, 12 ft. from S and W lines of 2-ac. tract, J. B. De Cadena Sur. ..... Set surface csg.

Gulf Production Co.'s No. 2 W. A. Hindman, 270 ft. S and 123 ft. E from NW cor. of lease, W. W. Simms Sur. ..... Location.

Harris and Russell's No. 1 T. W. Harris, 330 ft. from S line and 660 ft. from W line of most southerly SW cor. of 160-ac. tract, 3 miles SW of Henderson, W. G. Davis Sur. ..... Derrick.

Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... Coring Georgetown lime 3,855 ft.

H. B. W. Oil Co.'s No. 2 Redwine, 150 ft. from E line and center of Payne's No. 1 Redwine, Juan Ximenes Sur. ..... Derrick.

Horseshoe Synd.'s No. 2 W. P. Brightwell, NE offset to East Texas' No. 5 A. Living, R. E. Winn Sur. ..... Swabbing; T.D. 3,684 ft.

Hudson's No. 1 Jeff Phillips, 150 ft. from N line of survey and 640 ft. from W line of 100-ac. tract, 4 miles SE of Minden, Nepomucene Villareal Sur. ..... Drlg. 1,920 ft.

Humble Oil & Refining Co.'s No. 2 C. H. Hedge, 330 ft. from N and W lines of lease, J. C. Barnett Sur. ..... Derrick.

Humble Oil & Refining Co.'s No. 1 J. D. Taylor, 330 ft. from W line of lease and S offset to No. 1 Hedge ..... Derrick.

Humble Oil & Refining Co.'s No. 2 M. A. Neal, 208 ft. from S line and 108 ft. from W line of 17.67-ac. tract, J. Darley Sur. ..... Testing; T.D. 3,730 ft.

Humble Oil & Refining Co.'s No. 2 Clayton Young, 717 ft. from N and 347 ft. from E and W lines of 33-ac. lease, T. J. Martin Sur. ..... T.D. 3,690 ft.; testing.

Iotex Oil Co.'s No. 3 Tom Beall, W offset to Ward Oil Co.'s No. 3 Beall, P. W. Holmes Sur. ..... Derrick.

J. Jeagen's No. 1 Needham, 330 ft. from N line of lease and 330 ft. from NE and 400 ft. from SE of survey, J. H. Chambers Sur. ..... S.D. 1,414 ft.

Jenkins Bros.' No. 1 Daisy Bradford, 150 ft. from W line of 45-ac. tract, Juan Ximenes Sur. ..... Rigging up standard tools; failed to flow when swabbed; top sand 3,520 ft.; T.D. 3,605 ft.

Jordan & Ramsey's No. 1 L. W. Prior, 330 ft. from N line and 607 ft. from E line of 53-ac. lease, Walker Pettit Sur. ..... Derrick.

John Keegan's No. 1 J. C. Strong, 300 ft. from N line and 600 ft. from W line of 57-ac. lease, 8 miles NE of Henderson, John Hallam Sur. ..... Location.

Kimble & Acre's No. 1 Frederick, 150 ft. from S line and center of E and W lines of 10-ac. lease, Juan Ximenes Sur. ..... Derrick.

McMahon's No. 3 Joe Lee, 1,000 ft. E of No. 2 and center of N and S lines of lease, Peter Tipps Sur. ..... Location.

Mid-Kansas Oil & Gas Co.'s No. 5 Jim Lunsford, 78 ft. from N line and 898.4 ft. from most easterly E line of lease, J. B. De Cadena Sur. ..... Top Austin chalk 3,475 ft.; waiting on cmt.

Olson Bros.' No. 5 J. T. Brown, 200 ft. from N line and 700 ft. from W line of lease, M. J. Pru Sur. ..... Derrick.

Overton Refining's No. 3 Maxwell, 70 ft. S of J. E. Oliver's No. 1 G. Pool, F. Cordova Sur. ..... Waiting on cmt. to set 3,778 ft.

Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... S.D. 1,465 ft.

Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... T.D. 3,387 ft.

Smith and Sikes' No. 3 W. H. Frederick, 150 ft. from S and E lines of 10-ac. lease, Juan Ximenes Sur. ..... Rigging up standard tools and swabbing; T.D. 3,675 ft.

Snyder et al's No. 2 Stewart, 174 ft. NW of No. 1 and 190 ft. SE of C. L. Archer's No. 1 J. H. Stewart, John Womack Sur. ..... Derrick.

Trice Oil Co.'s No. 1 D. Bradford, 300 ft. N of highway and 150 ft. W of most westerly creek, Juan Ximenes Sur. ..... Drlg. 1,710 ft.

C. A. Walker's No. 1 Nealy Johnson, 330 ft. from N and E lines of 13-ac. tract, W. T. Tutt Sur. ..... S.D. 2,850 ft.

Ward Oil Co.'s No. 5 Giles, 150 ft. from E line and center of N and S line of 40-ac. lease, M. J. Pru Sur. ..... T.D. 3,790 ft.; running tubing.

SMITH COUNTY

Florence Oil Co.'s No. 1 Cole (old well drilled deeper), 150 ft. from S line of lease, J. Jordan Sur. ..... T.D. 3,777 ft.; preparing to swab.

Long Drilling Co.'s No. 3 G. A. Turner, D. W. Campbell Sur. ..... Derrick.

A. McCutcheon's No. 2 Temple Store, 330 ft. from W line and midway between N and S lines of lease, D. Shaw Sur. ..... Derrick.

M. M. Rowan et al's No. 1 Gibbons Mfg. Co., 5,900 ft. from S line and 5,050 ft. from W line of survey ..... T.D. 3,610 ft.; cleaning out.

Sinclair Prairie Oil Co.'s No. 6 Patterson, 330 ft. from N and W lines of lease, J. Vargas Sur. ..... Temp. abnd.; T.D. 3,753 ft.

The Texas Company's No. 7-B Jarvis, 330 ft. from W line and 1,320 ft. from N line of lease, M. D. L. S. Coy Sur. ..... Location.

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... T.D. 4,212 ft.

UPSHUR COUNTY

W. C. Bentley's No. 1 Brawley heirs, 630 ft. E and 170 ft. N of NW cor. of Sun's Hargraves lease, M. Mann Sur. ..... T.D. 2,825 ft.; chalk; S.D.

Clark & Cowden's No. 3 J. W. Fris, 330 ft. from most easterly E line and center of N and S lines of lease, D. Ferguson Sur. ..... T.D. 3,630 ft.; running csg.

H. W. Elliott et al's No. 1 W. H. Reid, 330 ft. from N line and E line of 24-ac. lease, M. Mann Sur. ..... Top sand 3,704 ft.; T.D. 3,714 ft.; will not flow; S.D.

F. A. Fuller et al's No. 1 Shattesworth, 330 ft. from S and E lines of W 50 acres of 100-ac. tract, James Dunn Sur. ..... Oil sand 3,727-45 ft.; S.D.; waiting orders.

Pat Hudson et al's No. 1 D. F. Smith, 330 ft. out of SE cor. of W 100 acres of the N 200 acres of the 272-ac. lease, 3 miles E and 1½ miles N of Cranfill & Reynolds' No. 1 Rash, John Denson Sur. ..... Waiting orders 3,710 ft.

Humble Oil & Refining Co.'s No. 4 E. W. Smith, 330 ft. from N and E lines of 51.4-ac. lease, H. Edwards Sur. ..... S.D. 3,595 ft.; chalk.

Lynch & McQuaig's No. 2 Mackey, 330 ft. from E line of lease and 550 ft. N of No. 1 well in S. Harrell Sur. ..... Derrick.

Magnolia Petroleum Co.'s No. 13 Hampton, 477 ft. from CWL and 177 ft. from CNL of lease, D. Ferguson Sur. ..... Drlg. 2,915 ft.; chalk.

George Pace et al's No. 1 D. C. Shelton, N offset to C. L. Brown's No. 1 D. C. Shelton, William King Sur. ..... Spudding.

Sun Oil Co.'s No. 3 Hodnett Melton, 330 ft. from E line and 990 ft. from Nos. 1 and 2, Juan Vargas Sur. ..... S.D. 1,629 ft.

Taubel & Lyons' No. 1 W. H. Duffy, 330 ft. from N and E lines of NW 50-ac. tract, Starr Sur. ..... S.D. 3,875 ft.; white sand.

Travis & Weir's No. 1 L. P. League, 330 ft. from N line and 330 ft. from W line of N 13 acres of L. P. League Sur. ..... Rig up.

Wadley and Evans' No. 1 W. S. Jones, 330 ft. from S and E lines of 100-ac. lease, James M. Dunn Sur. ... T.D. 3,690 ft.; swabbed salt water; S.D.

Wadley & Lyons' No. 1 Hall, 150 ft. out of NW cor. of H. E. Hall 14-ac. tract, William McKey Sur. .... Temp. abnd. 3,784 ft.

Waggoner & McConnell's No. 4 Williams, 300 ft. from W line and center of N and S lines of 22-ac. lease, McKinley & Williams Sur. ..... Derrick.

J. E. Werby's No. 3 Read, 330 ft. from S line of lease and 490 ft. W of No. 1 T. Hopkins Sur. ..... T.D. 2,871 ft.; S.D.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 236-ac. tract, 3½ miles S of Canton, M. J. De Cadena Sur. ..... S.D. 3,355 ft.

Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tract, John Conner Sur. ..... S.D. 2,300 ft.

Killum & Chisum's No. 1 J. J. Goode, 150 ft. from N line and 375 ft. from E line of lease, 5 miles SW of Van, David Rose Sur. ..... Derrick.

Lyman et al's No. 1 J. C. Stewart, 150 ft. from N line and 650 ft. from W line of 90-ac. tract, A. McPhail Sur. ..... T.D. 2,731 ft.

Peden-Olson's No. 1 W. S. Brannon, 205 ft. from N and 160 ft. from W lines of 45-ac. tract, 2½ miles N of John Goodman Sur. ..... Prepare to test 1,350 ft.

Pure Oil Co.'s No. 5 L. A. Smith, 250 ft. S of N line and 250 ft. E of W line of lease in John Walling Sur. ..... Drlg. 2,295 ft.

Pure Oil Co.'s No. 6 L. D. Miller, 225 ft. E of W lines and 250 ft. S of N line of lease in John Walling Sur. ..... Rigging up.

A. C. Rowan's No. 1 W. E. Price, 150 ft. from N line and 150 ft. from W line of 28-ac. tract, John Walling Sur. ..... S.D. 2,942 ft.

Ray Stumpff's No. 1 M. I. Riggs, 169 ft. from E line and 250 ft. from S line of tract No. 2 and 330 ft. from E line of lease, 4 miles NE of Van, William Daniel Sur. ..... Rig up and S.D.

H. C. Teague et al's No. 1 C. W. Morris, 1,000 ft. from N line and 300 ft. from E line of 160-ac. tract, 6 miles SE of Ben Wheeler, C. L. Morrison Sur. .... T.D. 3,097 ft.; S.D.

The Texas Company's No. 4 J. A. Bracken, 217 ft. W of E line and 250 ft. N of S line of lease, John Walling Sur. ..... Rigging up.

Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... T.D. 2,850 ft.

C. O. Weir's No. 1 W. B. Tunnell, 150 ft. from N and W lines of lease, A. H. Wiley Sur. ..... T.D. 3,003 ft.

WOOD COUNTY

De Canther's No. 1 N. L. McLain, 350 ft. from N line and 642 ft. from E line of tract, Sam Brooks Sur.... S.D. 3,846 ft.

Hull & Short's No. 1 T. H. Peterson, 600 ft. from S line and 200 ft. from E line of 320-ac. tract and survey, 4 miles E of Mineola, W. B. McNutt Sur. ..... S.D. 2,850 ft.

Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tract and 2½ miles S of Kantes in Sarah McDonald Sur. ..... S.D. 4,384 ft.

Wildcat Operations in West Texas

(Continued from Page 38)

ECTOR COUNTY

J. M. Cooper et al's No. 1 Cowden, 2,310 ft. from S and W, Sec. 16, Blk. 43, Twp. 2s, T.&P. Sur. ..... Location.

L. C. Harrison et al's No. 1 Addis, 330 ft. from N and 1,320 ft. from W, Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.. T.D. 4,061 ft.; flowing 450 bbls. day.

Landrath Prod. Co.'s Holt, C SW of SE Sec. 15, Blk. 43, Twp. 1n, T.&P. Sur. ..... T.D. 4,627 ft.; plugged back to 4,400 ft.; shot 120 qts. from 4,265-92 ft.; made two heads after shot; now shut in.

Stanolind O. & G. Co.'s No. 1 Cowden, 330 ft. from S and 1,320 ft. from W, Sec. 26, Blk. 43, Twp. 2s, T.&P. Sur. ..... Drlg. 2,760 ft.; cleaned out to 1,800 ft.

Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E, Sec. 38, Blk. 43, Twp. 3s, T.&P. Sur. ..... T.D. 3,200 ft.

H. F. Wurtz' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur. ..... S.D. 3,605 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... S.D. 3,190 ft.; fishing 3,190 ft.

FISHER COUNTY

O'Donnell's No. 1 Pardue, 330 ft. from S and E lines of N half of SW Sec. 202, B.B.B.&C. Sur. ..... Drlg. 1,475 ft.

Southern Oil Co.'s No. 1 Beavers, 330 ft. from W and 660 ft. from S of S half of SW Sec. 193, B.B.B.&C. Sur. ..... Spudded and S.D.

GARZA COUNTY

Southern Oil Corp.'s No. 1 Boren, 990 ft. N, 660 ft. E, Sec. 36, Blk. 5, H.&G.N. Sur. ..... Drlg. 770 ft.

GLASSCOCK COUNTY

Lawson's No. 2-B Edwards, 330 ft. from S and W, Sec. 16, Blk. 33, Twp. 2s, T.&P. Sur. ..... S.D. 2,250 ft.; 1,000 ft. water and 600 ft. oil in hole.

Llano Oil & Dev. Co.'s No. 1 Edwards, 330 ft. S and E, Sec. 17, Blk. 33, Twp. 2s, T.&P. Sur. ..... T.D. 2,193 ft.; cmtd. 6⅝-in. csg.

HOWARD COUNTY

Eppenauer et al's No. 1 Leatherwood, C of SE of NW, Sec. 25, Blk. 33, Twp. 1n, T.&P. Sur. ..... Location.

F.H.E. Oil Co.'s No. 1 Dodge, 330 ft. from N and E, Sec. 15, Blk. 31, Twp. 1s, T.&P. Sur. ..... T.D. 2,867 ft.; to shoot.

Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. .... Drlg. by tools 1,505 ft.

Mid-Continent Oil & Gas Co.'s No. 1 Denman, 990 ft. from S and 330 ft. from E, Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. ..... T.D. 2,813 ft; putting on pump.

Sinclair Prairie Oil Co.'s No. 4 Dodge, 960 ft. from S and 330 ft. from W, Sec. 11, Blk. 30, Twp. 2s, T.&P. Sur. ..... To recement csg.

Sinclair Prairie Oil Co.'s No. 5 Dodge, 2,310 ft. from N and 330 ft. from W, Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 326 ft.

Southern Oil Corp.'s No. 1 Williams, 420 ft. from N and 330 ft. from W of S 123 acres of W half Sec. 43, Blk. 30, Twp. 1n, T.&P. Sur. ..... S.D. 750 ft.

HUDSPETH COUNTY

Patillo-Welsh's No. 1 Briggs ..... S.D. 1,135 ft.; may plug.

IRION COUNTY

Bristow et al's No. 2 Nutt, 2,550 ft. N, 1,000 ft. W, Sec. 6, Gonzales County School Lands Sur. ..... S.D. 435 ft.

Straughn et al's No. 1 Kaiser, 1,930 ft. from N and 1,390 ft. from W, Sec. 69, H. Cooper Sur. ..... Drlg. 1,139 ft.

JONES COUNTY

Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-ac. tract in G. Martinez Sur. ..... S.D. 1,005 ft.; temp abnd.

Condor Pet. Co.'s No. 1 Holt, 1,900 ft. from S and 1,800 ft. from W, Sec. 4, Blk. 20, T.&P. Sur. ..... Location.

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Rig.

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... T.D. 2,290 ft.

Smart & Reynold's No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3... Fishing 1,474 ft.

C. S. Spelling et al's No. 1 Lillie, 200 ft. from N and W Sec. 4, E. Miller Sur. No. 2 ..... S.D. 2,030 ft.

Southern Oil Co.'s No. 1 Swann, 1,000 ft. from E and 900 ft. from S. of L. Miley Sur. ..... S.D. 1,945 ft.; to start up.

Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. ..... Location.

LOVING COUNTY

A. & M. Pet. Corp.'s No. 1 Wheat, 2,310 ft. SW, 990 ft. SE, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Cellar.

Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 338 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. ..... Rigging up standard tools.

Goldman et al's No. 2 Allen, 330 ft. from NW, 2,310 ft. from SW, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Shut down.

Goldman et al's No. 1 Reagan-McElvain, 330 ft. from NE, 2,310 ft. from NW, Sec. 84, Blk. 1, W.&N.W. Sur.. Shut down.

Lewis & Siegel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur... Drlg. 2,380 ft.

Martin et al's No. 1 Wheat, 990 ft. from SW and SE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... S.D. 4,007 ft.

Miller et al's No. 1 Ferguson, 990 ft. from NE of Sec. 44, Blk. 29 ..... Spudded and S.D.

Thomas' No. 1 Wheat, 2,310 ft. from NW, 990 ft. from NE, Sec. 83, Blk. 1, W.&N.W. Sur. ..... T.D. 4,050 ft.; straightening crooked hole.

PECOS COUNTY

Bennett et al's No. 1 Powell, 330 ft. from SW and SE, Sec. 76, Blk. 10, H.&G.N. Sur. ..... Material.

Cardinal Oil Co.'s No. 3-G Tippett, 660 ft. from S and 330 ft. from E of No. 2 Tippett, Sec. 61, Blk. 194, G.C.&S.F. Sur. ..... T.D. 302 ft.

Cardinal Oil Co.'s No. 16 E. Tippett, 5,200 ft. from S and 150 ft. from W of E half of W half Sec. 40, Blk. 194, G.C.&S.F. Sur. ..... S.D. 550 ft.

Cooper et al's No. 1 Perry, 1,980 ft. N and W, Sec. 15, Blk. C-4, G.C.&S.F. Sur. ..... S.D. 802 ft.

Corvette Oil Corp.'s No. 8 H. Monroe, 1,040 ft. from E line and 150 ft. from N line of Sec. 39, G.C.&S.F. Sur., Blk. 194 ..... Location.

Humble Oil & Ref. Co.'s No. 1 White-Baker Co., 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C.R.R. Sur. ..... Location for Ordovician test.

Massey's No. 1 Iowa Realty Trust, 150 ft. from NE and 1,483 ft. from NW, Sec. 21, Blk. 10, H.&G.N. Sur. .... S.D. 425 ft.

Messinger et al's No. 1 Jones, 1,200 ft. from NW, 1,200 ft. from SW, Sec. 5, Blk. 9, H.&G.N. Sur. ..... S.D. 1,000 ft.

Stanolind Oil & Gas Co. et al's No. 2 Tippett, 5,300 ft. from S and 150 ft. from E of W half of W half, Sec. 40 ..... T.P. 531 ft.; T.D. 599 ft.; plugged back 542 ft.; 33 bbls. in 16 hrs.

Winfield et al's No. 1 Eaton, 1,170 ft. from NE and 2,490 ft. from SE, Sec. 35, Blk. 3, H.&T.C. Sur. ..... S.D. 940 ft.

PRESIDIO COUNTY

Sadler et al's No. 1 Bledsoe, 2,640 ft. from N and W Sec. 15, Blk. 354, G.C.&S.F. Sur. ..... S.D. 328 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 1-C University ..... S.D. 9,562 ft.

Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 2 ..... Drlg. 8,040 ft.

Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 2 ..... T.D. 4,911 ft.; to run 9-in. csg.

Big Lake Oil Co.'s No. 10-C University, 2,025 ft. from S and 375 ft. from W, Sec. 25, Blk. 9 ..... Digging cellar.

Big Lake Oil Co.'s No. 181 University, 1,700 ft. from S and 2,000 ft. from W, Sec. 10, Blk. 2 ..... T.D. 2,800 ft.; pulling csg. to abandon.

Continental Oil Co.'s No. 6-B University, 765 ft. from N and 1,980 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 7,951 ft.

Continental Oil Co.'s No. 7-B University, 1,900 ft. from N and 650 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 3,252 ft.

Continental Oil Co.'s No. 8-B University, 1,200 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 2,895 ft.

J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 179, Blk. 1, T.&P. Sur. ..... S.D. 495 ft.

REEVES COUNTY

Cordova Union Oil Co. et al's No. 1 Wright, 1,320 ft. from S and W, Sec. 58, Cassell's Sur. ..... Drlg. 3,185 ft.

McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.... S.D. 2,025 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,417-20 ft.; S.D. 3,600 ft.

John Castor's No. 1 Hall, 330 ft. from S and W, Sec. 149, E.T.R.R. Sur. ..... Spudded.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... T.D. 5,410 ft.; fishing at 5,250 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Drlg. 6,166 ft.

George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,320 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. ..... S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. ..... S.D. 5,100 ft.

W. S. Guthrie's No. 1 Clarkson, 1,320 ft. from S and W, Sec. 243, Blk. 97, H.&T.C. Sur. ..... Drlg. 2,000 ft.

Heinsleman et al's No. 1 Hood, 436 ft. from N and 489 ft. from E, Sec. 87, Blk. 3, H.&T.C. Sur. ..... T.D. 1,050 ft.; running 8¼-in. csg.

Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. ..... Spudded and S.D.

Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 153, Blk. 97, H.&T.C. Sur. ..... S.D. 4,992 ft.

STERLING COUNTY

Fullick & Johnson's No. 1 Davis, 990 ft. from S and 660 ft. from E, Sec. 7, Blk. 12, S.P. Sur. ..... Spudded and S.D.

TAYLOR COUNTY

Urban's No. 1 Blair, 1,500 ft. from S and 150 ft. from W of NE 198 varas Guadalupe County School Lands, Lot 21 ..... Show oil and gas 2,315-21 ft.; S.D. 2,335 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW Sec. 155, Blk. D, M-K-T Sur. ..... S.D. 2,269 ft.

Briggs & McPhee's No. 1 Kerr, 1,800 ft. E and 790 ft. S of NW cor. Sec. 18, Blk. 5-D, M.K.&T. Sur. ..... S.D. 800 ft.

Keck Pecos Trust Co.'s No. 1 Hamilton, C Sec. 6, Georgetown Ry. Sur. ..... S.D. 3,150 ft.

Miller Bros.' No. 1 Allison & Burke, C NW Sec. 10, Blk. 176, T.&P. Sur. ..... S.D. 120 ft.

Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur.. S.D. 6,120 ft.

Jones et al's No. 1 Pankenham, C SE NW Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. ..... S.D. 2,545 ft.

Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,462 ft. from W, Sec. 5, G. W. Hurley Sur. ..... T.D. 3,520 ft.; cleaning out to deepen.

TOM GREEN COUNTY

Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 537 ft. from E of John McNeese Sur. ..... S.D. 760 ft.; S.O. and gas 726 ft.

Hancock et al's No. 1 Reed, 330 ft. N and 1,670 ft. W of SW cor. of C. Schoner Sur. but in Mason & Perry Subd. No. 39 ..... Moving in material.

Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur. .... S.D. 1,994 ft.

Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 ..... S.D. 200 ft.

UPTON COUNTY

Gulf Prod. Co.'s No. 102 McElroy, 1,320 ft. from S and W, Sec. 139, Blk. F, C.C.S.D.&R.G.N.G. Sur. ..... Drlg. 1,945 ft.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoss, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur. ..... S.D. 400 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. ..... S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 2 Sloan, 990 ft. from NE and NW, Sec. 24, Blk. 5, H.&T.C. Sur. ..... Drlg. 956 ft.
Atlantic Oil Prod. Co.'s No. 1 Johnson, 330 ft. from NW and 2,310 ft. from NE, Sec. 9, Blk. 34, H.&T.C. Sur. .... Location.
Atlantic Oil Prod. Co.'s No. 2 Johnson, 990 ft. from NW and 2,310 ft. from NE, Sec. 9, Blk. 34 ..... Location.
Atlantic Oil Prod. Co.'s No. 1 University, 330 ft. S and E, Sec. 3, Blk. 16 ..... T.D. 2,448 ft.; drlg. 1,220 ft.
Atlantic Oil Prod. Co.'s No. 1 Blank-Camp, 1,320 ft. from NW and SW Sec. 14, Blk. 34, H.&T.C. Sur. ..... T.P. 2,340 ft.; S.D. 2,707 ft.
Atlantic Oil Prod. Co.'s No. 1 Jones, 330 ft. from SW and 1,650 ft. from SE, Sec. 25, Blk. B-29, P.S.L. Sur. ..... T.D. 2,408 ft.; running csg.
Barnsdall Oil Co.'s No. 5 Henry, 1,650 ft. from NE and 330 ft. from SE, Sec. 26, Blk. B-29, P.S.L. Sur. ..... Drlg. 3,122 ft.; show oil 2,070 ft.
Bentley et al's No. 1 Carson, 1,650 ft. from NE and SE Sec. 26, Blk. 5, H.&T.C. Sur. ..... S.D. 2,240 ft.
Bradford's No. 1 Carson, 1,650 ft. from SE and 990 ft. from NE Sec. 26 ..... Drlg. 1,670 ft.
Bradford's No. 1 Beatty, 1,650 ft. from NW and 330 ft. from SW, Sec. 3, Blk. 34, H.&T.C. Sur. ..... Material on ground.
Bundy et al's No. 1 Bennett, 2,310 ft. from NW and SW Sec. 16, Blk. 34, H.&T.C. Sur. ..... T.D. 2,608 ft.; cleaning out.
Eastland Oil Co. et al's No. 1 Grimes, 445 ft. from NE and 1,320 ft. from SE Sec. 14, Blk. 34, H.&T.C. Sur. ..... T.D. 2,480 ft.; flowing 17 bbls. per day.
Eastland Oil Co.'s No. 3 Grimes, 495 ft. from NE and 440 ft. from SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... Location.
Eastland Oil Co.'s No. 3 Weiss, 954 ft. from NW and 284 ft. from NE of Sec. 4, Blk. 34 ..... S.D. 2,385 ft.; flowing 100 bbls. per day.
Eppenauer's No. 1 Purcell, 265 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 14, H.&T.C. Sur. ..... T.D. 2,740 ft.
Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 ..... Material on ground; machine.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Cellar.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. ..... S.D. 2,223 ft.
Gulf Prod. Co.'s No. 14 Hutchings, 330 ft. from N and W of Sec. 9, Blk. O ..... T.D. 2,739 ft.; plugged back 2,720 ft.; swabbing and cleaning out.
Gulf Prod. Co.'s No. 16 Hutchings, 1,932 ft. from S and 1,650 ft. from W, Sec. 5, Blk. F ..... Location.
Gulf Prod. Co.'s No. 26 O'Brien, 3,347 ft. N, 330 ft. E. Sec. 16, Blk. F ..... Drlg. 2,600 ft.; gas at 2,530-63 ft.
Gulf Prod. Co.'s No. 29 O'Brien, 990 ft. N of SW cor., Sec. 6, Blk. F ..... Location.
Kregle et al's No. 1 Reasler, 3,062 ft. from SE, 330 ft. from NE, Sec. 46, Blk. 34, H.&T.C. Sur. ..... S.D. 2,000 ft; plugged back to 1,452 ft; fishing.
Magnolia Pet. Co.'s No. 1 Brillhart, 2,310 ft. from NW and SW, Sec. 13, Blk. 34, H.&T.C. Sur. ..... Drlg. 1,632 ft.
Maxwell's No. 1 Smith, 330 ft. from NW and SW, Sec. 24, Blk. 34, H.&T.C. Sur. ..... T.P. 2,456 ft.; T.D. 2,614 ft.; making 10 bbls. per day.
George McCamey's No. 1 Carey, 2,310 ft. from NW and 330 ft. from NE, Sec. 5, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,210 ft.
Moran et al's No. 1 Reynolds, 170 ft. from SE and SW of NW 80 of NE half Sec. 12, Blk. 5, H.&T.C. Sur. .. Location.
Penn Oil Co.'s No. 1 Hardage-Wilson, 330 ft. from NE and SE Sec. 11, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,515 ft.
Prince Bros.' No. 3 Hall-Roberts, 1,470 ft. from NE and 2,300 ft. from NW, Sec. 14, Blk. 34, H.&T.C. Sur. .... Drlg. 660 ft.
Rector Oil Co.'s No. 1 Monroe, 660 ft. from NE and SE, Sec. 62, Blk. 33, H.&T.C. Sur. ..... S.D. 4,150 ft.
Rowan & Nichols' No. 1 Street, 990 ft. from SE and 330 ft. from NE, Sec. 17, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,256 ft.
Southern Oil Co.'s No. 1 Sloan, 1,650 ft. from NE and 330 ft. from NW, Sec. 24, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,080 ft.
Stanolind Oil & Gas Co.'s No. 1 Whitlock, 495 ft. NE, 2,200 ft. SE, Sec. 14, Blk. 34, H.&T.C. Sur. ..... T.D. 2,515 ft.; to shoot.
Sturm et al's No. 4 Jones, 2,310 ft. from SW and 990 ft. from SE Sec. 25, Blk. B-29, P.S.L. Sur. ..... To test 2,546 ft.
T. P. Coal & Oil Co.'s No. 7 James, 1,320 ft. from SW and SE, Sec. 5, Blk. 34, H.&T.C. Sur. ..... T.D. 2,270 ft.; tested 7,000,000 ft. gas; tools stuck.
Thompson's No. 1 Johnson, 2,310 ft. from SW and 330 ft. from NW, Sec. 9, Blk. 34, H.&T.C. Sur. ..... T.D. 2,351 ft.; flowing 50 bbls. per day.

WINKLER COUNTY

Colonial Oil Co.'s No. 1 State vacancy, 330 ft. E and 103 ft. N of NW cor. Sec. 4, Blk. 77, P.R.L. Sur. ..... Drlg. 942 ft.
Richardson et al's No. 1-B Scarborough, 990 ft. from S and 1,980 ft. from E, Sec. 13, Blk. 74, P.S.L. Sur. .... S.D. 2,605 ft.
Richardson et al's No. 2 Scarborough, 1,980 ft. from N and 660 ft. from E. Sec. 1, Blk. 77, P.S.L. Sur. ..... S.D. 2,830 ft.; est. 150 bbls. per day.

Wildcat Operations in Texas Panhandle

Week Ending February 13

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
Gulf Prod. Co.'s No. 6 Cooper, 330 ft. from N and W SW, Sec. 4, Blk. 9, I.&G.N. Sur.	S.D. 3,075 ft.; T.P. 3,035 ft.; to test.
Panhandle Rfg. Co.'s No. 1 Kirby, 1,320 ft. N and W, Sec. 183, Blk. 3, I.&G.N. Sur.	T.D. 2,488 ft; to run 6-in. csg.
Texas Interstate P. L. Co.'s No. 1 Burnett, 1,323 ft. N, 2,675 ft. E of N¼ Sec. 97, Blk. 5, I.&G.N. Sur.	Drlg. 2,232 ft.
Union Pet. Co.'s No. 3 Cooper, 330 ft. N, 310 ft. E SE, Sec. 5, Blk. 9, I.&G.N. Sur.	Cellar.

CHILDRESS COUNTY

Robertson's No. 1 Biddy, center S 26½ acres of N, Laughlin Sur. Blk. T	Rig.

COLLINGSWORTH COUNTY

Kates et al's No. 1 Hickman, center NE, Sec. 43, Blk. 10, H.&G.N. Sur.	S.D. 2,275 ft.
Kates et al's No. 1 Bell, 200 ft. from N, 2,310 ft. from W, Sec. 21, Blk. 102, H.&G.N. Sur.	S.D. 2,703 ft.
Tittle, Cochran et al's No. 1 Boyles, 150 ft. S and E of Sec. 90, Blk. 14, H.&G.N. Sur.	Location.

COTTLE COUNTY

Darby Pet. Co. et al's No. 1 Puerall, 330 ft. from N, 1,320 ft. from E, Sec. 40, Blk. B, John H. Stevens Sur.	S.D. 4,734 ft; plugging to abd.

DEAF SMITH COUNTY

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e	S.D. 1,240 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S, 330 ft. from W, Sec. 140, Blk. 25, H.&G.N. Sur.	S.D. 2,428 ft.
Baldridge et al's No. 1 Melton, 330 ft. from NE E half NE, Sec. 95, Blk. B-2, H.&G.N. Sur.	S.D. 3,075 ft.; T.P. 3,013 ft.; 40 bbls.; to make 5-day test.
Baldridge et al's No. 1 Catlin, 330 ft. S and E of E 80 of 158-ac. tract, Sec. 57, Blk. 3, I.&G.N. Sur.	S.D. 3,060 ft; S.O. 3,051 ft.
Baldridge O. Co.'s No. 1-B Melton, 330 ft. from N and E of SW, Sec. 95, Blk. B-2, H.&G.N. Sur.	S.D. 1,815 ft.
Gerdan Burch's No. 1 Laugham, 990 ft. S, 330 ft. E. Sec. 1, W½ NE, Sec. 1, Blk. B-2, H.&G.N. Sur.	T.D. 2,505 ft; rebuilding burned rig; est. 15,000,000 ft. gas.
Cantone Oil Co.'s No. 2 Morse, 330 ft. from N, 330 ft. from E line, Blk. 9-A, Sec. 15, H.&G.N. Sur.	Location.
Christy's No. 1 Gethings, 330 ft. from N and E, Sec. 13, Blk. A-9, H.&G.N. Sur.	S.D. 1,760 ft.
Sam Danner's No. 1 Cobb, 330 ft. S and W NE, Sec. 145, Blk. 3, I.&G.N. Sur.	Drlg. 1,465 ft.
Dolomite Prod. Co.'s No. 1 Sailor, 330 ft. N and E, Sec. 111, Blk. 3, I.&G.N. Sur.	Drlg. 2,305 ft.
Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur.	Rig.
Gray County Prod. Co.'s No. 1 Huselby, 330 ft. from S and W, E½ NW, Sec. 55, Blk. 25, H.&G.N. Sur.	Drlg. 2,620 ft; S.O. 2,575 ft.
Mazda-Shell Pet. Corp.'s No. 3 Combs-Worley, 330 ft. from N and W NE. Sec. 36, Blk. 3, I.&G.N. Sur.	S.D. to test; T.D. 3,058 ft.
Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur.	Rig.
Mid-Kansas O. & G. Co.'s No. 1 Gethings, 330 ft. S, 1,650 ft. W S½ S½, Sec. 13, Blk. A-19, H.&G.N. Sur.	T.D. 2,788 ft; pumped 3 bbls. second 24 hrs.; to deepen.
Ochiltree et al's No. 1 Hughey, 360 ft. S, 330 ft. E E half SE, Sec. 139, Blk. 3, I.&G.N. Sur.	S.O. 3,168-72 ft; S.D. 3,180 ft; for pipe line connection.
Parton & Holt's No. 2 Morse, 330 ft. from W, 250 ft. from N, W½ SW, Sec. 5, Blk. 26, H.&G.N. Sur.	S.D. 2,635 ft; to shoot.
Parton Holt's No. 3 Morse, 660 ft. from N and E of E half SW. Sec. 5, Blk. 26, H.&G.N. Sur.	S.D. 2,641 ft.
Peterson & Holt's No. 1 Gething, 330 ft. from S and W of N¼ SE Sec. 13, Blk. 9-A, H.&G.N. Sur.	Cellar.
Phillips Pet. Co.'s No. 1 Davidson, 330 ft. N and W, Sec. 36, Blk. B-2, H.&G.N. Sur.	Drlg. 2,393 ft.
Quicksand Oil Co.'s No. 2 Chapman, 165 ft. N, 775 ft. from E of W 60 ac. of N½ NW, Sec. 69, Blk. 25, H.&G.N. Sur.	T.P. 2,720 ft; S.D.
Saunders et al's No. 2 Sullivan, 332 ft. from W, 331 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur.	Will plug back to 3,375 ft. and shoot.
Sinclair Prairie Oil Co.'s No. 1-E Combs-Worley, 330 ft. from S and E, Sec. 34, Blk. 3, I.&G.N. Sur.	Cellar.
Skelly Oil Co.'s No. 1 C. Thut, 330 ft. from S line, 330 ft. from W line, SW Sec. 1, H.&G.N. Sur., Blk. 1.	Rigging up rotary.
Skelly Oil Co.'s No. 1 Gething, 990 ft. from S and W of Sec. 48, Blk. 9-A, H.&G.N. Sur.	Drlg. 1,979 ft.
Skelly Oil Co.'s No. 3-A South Jackson, 330 ft. N, 1,650 ft. E, Sec. 88, Blk. B-2, H.&G.N. Sur.	Drlg. 2,872 ft.
Sun Oil Co.'s No. 1-B Combs-Worley, 330 ft. S and E of SW Sec. 34, Blk. 3, I.&G.N. Sur.	Rig.
Tedesco-Bell O. & G. Co.'s No. 4 Morse, 990 ft. N and W SE, Sec. 1, Blk. 26, H.&G.N. Sur.	Rig.
The Texas Co.'s No. 1 Gethings, 330 ft. from S line, 330 ft. from W line, S½ Sec. 47, Blk. 9-A, H.&G.N. Sur.	T.D. 2,905 ft.; P.B. to 2,800 ft.; shot with 40 qts. 2,733-2,800 ft. and 120 qts. 2,737-98 ft; 1,000 ft. oil in hole.
Paul Tharp's No. 1 Short, 330 ft. from N and W of Sec. 2, Blk. 1, H.&G.N. Sur.	Drlg. 2,792 ft.
Sam Travis' No. 1 Back, 330 ft. S and E E half NE, Sec. 44, Blk. 25, H.&G.N. Sur.	Rig.
Tripplehorn Bros.' No. 1 Lovett, 330 ft. from N and W, Sec. 57, Blk. B-2, H.&G.N. Sur.	T.D. 3,154 ft; pumped 99 bbls. first 24 hrs.; 89 bbls. second 24 hrs.
Weltzel Oil Co.'s No. 2 Morse, 330 ft. from S and E of N half NW, Sec. 67, Blk. 25, A.&G.N. Sur.	T.D. 2,675 ft.; plugged back to 2,285 ft.; to set csg.

HEMPHILL COUNTY

Hoover's No. 1 Hoover, 350 ft. from N, 1,200 ft. from E, G. S. Hood Sur.	S.D. 5,230 ft.

HUTCHINSON COUNTY

Alexander's No. 1 Cockrell, 330 ft. N and E of E 80 of S 160, Sec. 3, Blk. M-2, T.C. Sur.	Drlg. 2,367 ft.
Base's No. 1 Moore, 330 ft. from S, 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur.	T.D. 3,080 ft.; est. 5 or 10 bbls.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 34, Blk. Y, A.&B. Sur.	Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 80 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur.	S.D. 450 ft.
Huber Pet. Co.'s No. 1 Moyer-Johnson, 990 ft. from N, 330 ft. from E half SW, Sec. 34, Blk. Y, A.&B. Sur.	S.D. 2,918 ft.; T.A.
Huber Pet. Co.'s No. 1 Works, 1,342 ft. from S and 1,813 ft. from E, Sec. 7, Blk. Y-2, T.T. Sur.	Drlg. 2,300 ft; increase gas 2,264-65 ft.
Liner Drlg. Co.'s No. 1-D Johnson, 330 ft. from N and E, Sec. 6, Blk. 1, B.&B. Sur.	T.D. 3,146 ft.
Joe Murphy's No. 1 Watkins, 440 ft. from N and W of N half, Sec. 13, Blk. M-21	T.P. 2,923-60 ft; 1,400 ft. oil in hole; T.D. 2,964 ft.
Pharis Oil Co.'s No. 5 Smith, 660 ft. from N and W, SW, Sec. 14, Blk. Y, M.&C. Sur.	Shut down.
Stanolind O. & G. Co.'s No. 4-A Ware, 330 ft. S and W NE, Sec. 124, Blk. 4, I.&G.N. Sur.	T.P. 3,068-3,104 ft; T.D. 3,194 ft.; running rods and tubing.
H. Steckol's No. 1 J. A. Whittenburg (Amerada), 430 ft. from S line, 990 ft. from W line, Sec. 37, T.C.R. R. Sur.	Drlg. 1,052 ft.
Texilvania Oil Co.'s No. 1 Halle, 330 ft. S, 330 ft. W, Sec. 16, Blk. 1, E.L.R.R. Sur.	Ran 8¼-in. csg. 2,105 ft.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur.	T.D. 5,003 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 3-A Perkins, 3,250 ft. S of most northerly NE cor, 200 ft. W of E line, Sec. 54, Blk. 47, H.&T.C. Sur.	Drlg. 990 ft.
Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur.	S.D. 2,500 ft.
Shamrock Oil & Gas Co.'s No. 1 Burnett, 660 ft. from S, 330 ft. from W, Sec. 359, Blk. 44, H.&T.C. Sur.	Drlg. 3,890 ft; 800 ft. wtr. in hole from 3,880 ft.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur.	S.D. 530 ft.

OLDHAM COUNTY

Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. 8, G.C.&S.F. Sur.	Fishing 4,000 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur.	S.D. 4,970 ft; trying to shut off wtr.

WHEELER COUNTY

Delaney et al's No. 1 Sitter, 330 ft. from S and W of E half NE, Sec. 33, Blk. 24	Drlg. 2,650 ft; est. 1,000,000 ft. gas from 2,195 ft.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E, E½, Sec. 33, Blk. 24, H.&G.N. Sur.	T.D. 2,760 ft.; S.D. for pipe line connection.
Helena O. & G. Co. et al's No. 1 Below, C NE SW, Sec. 50	Spudded and S.D.
Osborne et al's No. 2 Sloss & Admire, 330 ft. from N line and 1,530 ft. from E line of NE Sec. 47, H.&T. C. Sur., Blk. 13	Drlg. 550 ft.
R. M. Rhodes' No. 1 Noel, 330 ft. S and E NE, Sec. 54, Blk. 24, H.&G.N. Sur.	Rig.
Rogers & Harner's No. 1 J. O. Clark, 990 ft. S and W of Sec. 6, Blk. 24, H.&G.N. Sur.	Moving in material.

Big Increase in Crude Nominations in Oklahoma City Means Greater Allowable in February

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

Producers in the Oklahoma City Field will be permitted to increase their daily oil production this week due to increased nominations by the purchasing companies in that field. No decision was made by the Corporation Commission at the last meeting on what method and rules will be used in taking new potentials in the Oklahoma City Field. Potential tests are scheduled to start February 15.

Potential tests recently completed in the West Holdenville Field in Hughes County reveal a huge gas volume the result of which is that only 6 of the 24 wells in that field are permitted to produce from the Booch sand.

Oklahoma's daily oil production for the week ending February 11 shows a decline of 13,000 bbls. daily, with the daily average estimated at 374,200 bbls.

During the past week two locations were announced in the Wentz Pool, in Noble County. These are the Lucien Consolidated Community's No. 1 Whitten, C SE SE, Section 7-20-2w, and the same operator's No. 1 Farr, C NE NE, Section 19-20-2w. Both of these locations are in the center of 40-acre tracts, located on the 2,160-acre block owned by eight companies.

The Lucien Consolidated Community's No. 1 Jerome, C SW SW, Section 8-20-2w, was shut down most of last week on account of the weather. The well will be plugged back in an attempt to shut off bottom hole water.

The Stanolind Oil & Gas Co. and Amerada Petroleum Corp.'s No. 1 Kolb, C NE NW, Section 33-20-2w, was also shut down for the same reason.

Corporation Commission Activities

The Corporation Commission increased the allowable production of the Oklahoma City Field 27,000 bbls. daily as the result of additional nominations of the Phillips Petroleum Co. and Stanolind Crude Oil Purchasing Co. All of the new allowable production comes from the Wilcox sand zone. The percentage allowable in that zone was increased to 2.2 per cent.

The hearing on the methods and means of taking new potentials was recessed last Friday, until February 24, at which time the subject may be reopened at the regular proration hearing. The taking of potentials is expected to start February 15, and within a few days the commission is expected to issue an order fixing the rules for this work.

A petition was filed with the commission signed by 11 companies asking that there be no change made at the present time in the plan of proration in effect in the Simpson below the Wilcox zone. This plan allows a minimum production of 30 bbls. of oil per day to each well, with an additional 100 bbls. a day to each well making 10 per cent or more of water.

The companies signing this petition, the number of wells in the field owned by them and the potential of all wells on the lease are as follows:

Company—	Wells	Pot.
Anderson-Prichard	17	43,974
I. T. I. O.	196	239,194
Wirt Franklin	34	58,814
Cromwell-Franklin	23	90,113
T. B. Slick est.	51	79,405
Ed S. Holmans, Inc.	1	3,352
Skelly	14	22,296
Kedberg	1	474
Wrightsmith	1	1,532
Blackwell	3	8,974
Julian	3	2,981

At the all-day Corporation Commission hearing on February 10 the operators in the Oklahoma City Field were divided in opinion. The larger producers, with engineering and geological departments, and with the largest number of wells, wanted one thing, and the small operators, with one or two wells, wanted another.

The large operators in the field are in favor of basing potentials on bottom hole pressures, which would mean that in the future the potentials would be figured on the decline curb. They claimed that this method would conserve the gas and gas energy. They would then tube their wells in order to conserve the underground pressure and energy.

The small operators favored the four-hour open flow potential test on all wells in the field, which method has been used in the past. They expressed the opinion that the new potentials on wells in other than the Wilcox sand zone would show a huge decline and that they believed the larger operators are trying to prevent this showing.

Commission to Decide

The Corporation Commission must decide as to whether the conservation feature in connection with the potential tests will prevail or whether the ratable taking feature shall be considered.

Robert Galbreath, Jr., representing the R. A. McArthur Oil Co., with three wells in the field, urged the open flow tests on all wells, with new proration orders based on a percentage basis only. He stated that the special allowables granted in the past have not helped owners of wells producing from the Wilcox sand.

Wirt Franklin, whose company owns four wells and a part interest in 34 other wells, defended the bottom hole pressure plan and favored a strict enforcement of the ratable-taking law in order that all producers of the field might be served alike.

E. G. Dahlgren, clerk in the proration department, said that at a meeting attended by a group of operators earlier in the week the proposed rules and methods were discussed. He said that these rules were prepared by a group of engineers and geologists.

The State Corporation Commission announced during the week that it has refused to hear any additional evidence or applications for an adjustment of potentials on oil wells in the Oklahoma City Field until the State Supreme Court acts on a test case and the legislature acts on proposed oil proration legislation. Paul Walker, chairman, announced the commission's decision at a hearing in a case before it.

This decision means that about 50 applications about to be filed will not be heard at this time. The commission will wait, according to Chairman Walker, until the State Supreme Court rules on the petition for a rehearing in the H. F. Wilcox Oil & Gas Co.'s case. The legislature also has yet to act on proposed proration laws.

The commission may also wait for an appeal to the Supreme Court on the case it had under consideration, the American Oil & Refining Co.'s application for adjustment of potential on its No. 1 Whitfield in the Oklahoma City Field.

An appeal to the State Supreme Court is expected from the Corporation Commission's decision in the case. Chairman Walker said that the applicants were given 15 days in which to file briefs, the objectors 10 days thereafter to file reply briefs, and then the applicant will have five days for an answer brief.

The Corporation Commission continued application of Hall & Briscoe for an adjustment of potentials of their No. 1 Stigall and No. 1 Muller wells.

The commission also continued the cases of alleged overproduction of the Wirt Franklin Petroleum Corp. and the Eason Oil Co. and set the hearing for March 1. These cases were called for February 8. The Wirt Franklin Petroleum Corp. is alleged to have overproduced approximately 185,000 bbls. of oil during the month of December, 1932. The Eason Oil Co. is alleged to have overproduced 215,000 bbls. from its three wells. The latter case was filed prior to the hearings of the State Supreme Court.

Propose New Proration Law

Work on a new proration law for Oklahoma was being rushed in order to maintain a curb on production from the state fields. It is believed that additional speed is necessary, due to the State Supreme Court's decision in the Russell Petroleum Co.'s case, which defined the use of the militia to enforce orders of the Corporation Commission.

Before the court hands down its mandate, which will be within 15 days from February 7, a petition for a rehearing will be filed, allowing two weeks for hearing the case and issuing the order. It is believed this would give the legislature time to enact a new measure. New clauses needed in the proposed proration law are an adequate penalty provision and means of enforcing the commission's orders.

It is believed the court held that the governor's executive order placing the militia in the field was not due process of the law. Only a small percentage of the operators had violated the commission's orders and had been shut down. Now it is believed that the military will be removed from all properties other than those actually shut down by the commission's orders.

It is believed that what is most needed in the new proration law is a penalty clause for violation of the commission's orders. The new law must provide for making daily reports on production and pipe line shipments.

Many believe a substantial penalty should be provided for failure or refusal to make these reports, possibly a fine as high as $5,000 per day and each day constituting a separate offense and the fine collectable by a lien on the property. Many believe there should be a conspiracy clause for failing to file these reports so that companies and officials and employes alike might be held responsible, and a clause providing for penalty for perjury in making these reports.

It is expected the proposed bill would be completed by the end of the next week. It is also expected to contain a levy for taxes to maintain a state paid umpire force for the State, in the future.

Market for 120,465 Bbls. Daily

The first increase for this month in the nominations of the crude oil purchasers in the Oklahoma City Field was made by the Stanolind Crude Oil Purchasing Co. and the Phillips Petroleum Co. and it is retroactive to February 1. The total increase in nominations was 27,000 bbls. daily which brings the total market for the Oklahoma City Field to 120,465 bbls. daily.

The Stanolind Crude Oil Purchasing Co. notified the corporation commission it would take an additional 12,000 bbls. daily, bringing its total daily nominations to 29,000 bbls. All of this oil will be taken from the Wilcox sand zone.

Phillips Petroleum Co. increased its nominations 15,000 bbls. daily to a total of 30,000 bbls. daily, also taking all of this production from the Wilcox sand zone.

These two increases in the nominations now give the outlet from the Wilcox sand zone a total of 87,220 bbls. daily. The corporation commission issued an order immediately increasing the outlet and raising the percentage flow for the Wilcox sand zone.

This increase in the nominations will increase the State's allowable to 433,229 bbls. daily, the highest outlet the State has had since last summer.

Holdenville's Big Gas Production

The following is the schedule of the potential tests in the West Holdenville Field, in Hughes County. Potential tests were taken on 24 wells by a four-hour open flow test and figured on a 24-hour basis made a total of 19,497 bbls. The Corporation Commission ordered that all wells in this pool with a gas-oil ratio in excess of 5,000 feet per barrel of oil are to be shut in. This allows only six wells out of the 24 wells to produce. The gas volume of the 24 wells in the field under the open flow tests totaled 424,591,000 feet a day.

The six wells allowed to produce have a total production of 943 bbls. daily. The allowed pipe line shipments from the area is 12.75 per cent of the potential. Winona Oil Co.'s No. 1 Narcomey was granted special permission to produce although its gas-oil ratio exceeds 5,000 feet per barrel.

Southern Operations

Development in the southern part of the State gives indications of opening new areas. In Stephens County, the California Producers Co.'s No. 1 Sutton, NE cor. SE SW Section 12-3s-6w, has cemented casing at 646 feet on top of a sand from 646-68 feet. H. C. McLaughlin and others' No. 1 Gann, NE cor. SE NW Section 31-2-4w, found a showing of oil in sand from 957-68 feet, and shut down at 1,222 feet.

New Pool in Pontotoc?

A new producing area was discovered in Pontotoc County during the week. The well was W. A. Delaney and others' No. 1 Harden, NE cor. SW Section 30-2-7. It found the Gilcrease sand at 1,170-74 feet, where it made 13,000,000 feet of gas with 505 pounds rock pressure. The 6-inch casing was landed at 1,170 feet. The operators may attempt to drill the well deeper before completing. Three offsets were staked immediately.

Atoka County

Independent Drilling Co.'s No. 3 D. James, C NE NE Section 28-1-15, was spudding. Croxton and others' No. 2 Southern Trust, C SW SW Section 3-1s-14, was abandoned at 100 feet.

Carter County

E. M. Baring and others' No. 1 Morgan, NE cor. NW SW Section 4-1s-3w, is a location. Gouin and others' No. 2 Burton, NW cor. SW SW Section 30-1-2w, was completed for 115 bbls. from

2,538-50 feet. Schermerhorn Ardmore Oil Co.'s No. 3 Bench, NW cor. SW Section 19-4s-2w, was abandoned at 2,800 feet.

Hughes County

Mid-Continent Petroleum Corp.'s No. 2 Jacobs, SW cor. NE SE Section 9-7-8, is a rig. Redwine's No. 1 Ellis, NW cor. Section 9-5-11, is a rig. Manahan and others' No. 1 Chapman, NW cor. SE SW Section 10-7-8, made 541 bbls. from 2,910-41 feet. Same operators' No. 2 Tiger, SW cor. NW SW Section 10-7-8, made 20 bbls. from 2,887-2,926 feet. Pringle and Marshall's No. 1 in the SE cor. SW SW SW Section 10-7-8, made 171 bbls. in four hours from 2,925-31 feet. Armstrong and others' No. 1 Narcome, NE cor. SW SW SW Section 10-7-8, made 183 bbls. in four hours from 2,894-2,924 feet. Watkins and others' No. 1 Jacobs, NE cor. SW NE Section 16-7-8, made 98 bbls. in four hours from 2,907-75 feet. Winona Oil Co. and others' No. 1 Harjo, SE cor. NW NW Section 29-7-8, made 350 bbls. from 4-120-48 feet, total depth 4,199 feet. Orville Tietey's No. 1 Walker, SE cor. NE NW Section 22-7-8, was drilling at 400 feet.

Creek County

L. B. Jackson's No. 3 Wills, SW cor. SE NW Section 26-18-8, is a rig. C. G. Tibbons' No. 1 Wilson, SW cor. NE Section 19-14-9, was spudding. Holmes Oil Co.'s No. 1 Deer, SW cor. NE Section 25-19-9, was abandoned at 2,308 feet. Johnson Oil & Refining Co.'s No. 2 Boyd, NW cor. NE NW Section 29-19-9, was completed for 5 bbls. from 2,176-2,216 feet. Merritt's No. 5 Richards, SE cor. NE Section 27-18-8, was completed for 15 bbls. from 1,360-90 feet. Curtis Oil Co.'s No. 1 Littlehead, C NW NW Section 16-17-10, was completed for 1,128 feet. C. A. Mechling's No. 4 Daniel, CNL SE SW NE Section 32-17-11, was abandoned at 642 feet.

Kay County

Harris-Haun's No. 1 Schrimp, C W half SW Section 17-29-1, is a location.

Marshall County

J. Russell's No. 1 Little, SE cor. NE Section 25-7-5, made 5 bbls. from 528-35 feet.

Oklahoma County

Day & Hodges' No. 1 Raff, SW cor. SE SW SE Section 22-11-3w, is a location.

Okfuskee County

Walker and others' No. 1 Hawkins, CSL NW NE Section 3-11-11, made 74 bbls. from 2,650-67 feet.

Okmulgee County

F. D. Misener's No. 1 Colbert, SE cor. NW Section 14-14-14, was abandoned at 1,765 feet. J. W. King's No. 6 Doyle, CSL NW NW Section 20-13-14, was abandoned at 2,735 feet.

Pottawatomie County

Hilton Phillips' No. 1 Betts, SE cor. SW Section 21-7-4, made 390 bbls. from 4,130-95 feet. Sinclair Prairie Oil Co.'s No. 2 Detheridge, NE cor. NW Section 28-7-4, made 1,150 bbls. from 4,127-32 feet. Gypsy Oil Co.'s No. 1 Boyer, NW cor. SE SE Section 27-6-3, was abandoned at 4,152 feet.

Pawnee County

Hambley and others' No. 1 Mills, SW cor. NW SE Section 20-20-10, was abandoned at 1,995 feet. P. Adamson, Jr., No. 1 Lucien, CWL SW SW Section 3-20-8, made 30 bbls. from 1,443-61 feet.

Seminole County

Amerada Petroleum Corp. and others' No. 8 Chase, C S half N half SE Section 29-9-6, is a rig.

Tulsa County

Aggis Drilling Co.'s No. 3 Techrana, SE cor. NW NE Section 13-16-13, was abandoned at 2,246 feet.

Pontotoc County

Patsey Oil Co.'s No. 2 Burke, NE cor. SE Section 25-5-4, is a rig. H. L. Wirrick's No. 1 fee, SE cor. SW Section 29-2-7, is a location. Delany and others' No. 1 Richards, NW cor. SE Section 30-2-7, is a location.

Wildcat Operations in Oklahoma

Northern Oklahoma

ATOKA COUNTY

Company, farm and location— Remarks:

Independent Drlg. Co.'s No. 2 D. James (twin), C NE NE Sec. 28-2-15 ..... Drlg. 425 ft.
Barton's No. 4 Miller, SE NW SE SW Sec. 26-1-14 ..... S.D. 505 ft.
George's No. 1 Reddin, SW NE SW Sec. 19-1-15 ..... S.D. 640 ft.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 22-10-23w ..... Fishing 1,960 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-22-22w ..... S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w ..... S.D. 3,575 ft.

BLAINE COUNTY

Watonga Petroleum Co.'s No. 1 Masters, SW NW NW, Sec. 27-16-11w ..... S.D. 1,205 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w ..... Drlg. 5,000 ft.
Abernathy & Brown's No. 1 Houston, Sec. 24-6-13w ..... S.D. 1,115 ft.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-8.. S.D. 1,100 ft.
Funk & Russell's No. 1 Miller, SE NE Sec. 10-2-8 ..... S.D. 2,750 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 3-3-9w ..... S.D. 1,450 ft.

CREEK COUNTY

Sinclair Prairie Oil Co.'s No. 1 Tibe, SW SE NW Sec. 29-14-7 ..... Rig.
O. O. Owen's No. 1 fee, NW cor. Sec. 23-15-7 ..... T.D. 3,145 ft.

CUSTER COUNTY

Miley Pet. Co.'s No. 1 Caldwell, NE Sec. 12-14-14w ..... Location.

ELLIS COUNTY

Algers Pet. Co.'s No. 1 Roper, C SE NW Sec. 21-20-24w ... S.D. 50 ft.

GRADY COUNTY

English Drlg. Co.'s No. 1 Heenan-Coe, NE SE NE Sec. 32-3-7w ..... S.O. 3,255-87 ft; S.D. 3,504 ft.

GARFIELD COUNTY

Continental Oil Co.'s No. 1 Thompson, NW SW SW Sec. 7-24-4w ..... Rig.
E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w.. S.D. 5,850 ft.

GREER COUNTY

French's No. 1 Murphy, SW NW Sec. 23-7-21w ..... S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Hall, NW SW SW Sec. 14-9-19 ..... S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW Sec. 25-19-9 ..... S.D. 200 ft.

HUGHES COUNTY

Redwine et al's No. 1 Ellis, C NW NW Sec. 9-5-11..... Rig.
Nash-Redwine's No. 1 Uri, C NE Sec. 10-5-11..... Drlg. 1,535 ft.

KAY COUNTY

Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1 ..... Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2 ..... S.D. 3,693 ft.

KIOWA COUNTY

Emenhiser et al's No. 1 Pace, SW cor. Sec. 3-4-17w..... Location.
McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.) ..... T.D. 1,902 ft.; C.O.
McWhirter Bros.' No. 1 Kline, SE NW Sec. 5-6-16w..... S.D. 830 ft.
Christian's No. 1 Jones, NE SE Sec. 8-7-18w..... S.D. 1,610 ft.

NOBLE COUNTY

Stanolind O. & G. Co. et al's No. 1 Kaib, C NE NW, Sec. 32-20-2w ..... T.D. 5,118 ft; flowed 650 bbls.; shot with 10 qts.; C.O. to run tubing and complete.
Rollins et al's No. 1 Frank, SE SW Sec. 6-20-2w..... Rig.

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w ..... S.D. 1,200 ft.
L. C. Hivick's No. 1 Sunset Addition, NW SW NW Sec. 17-11-3w ..... S.D. 5,515 ft.

PAWNEE COUNTY

G. N. Mainess and Westfield Drlg. Co.'s No. 1 Schildberg, NW SW NW Sec. 27-22-6 ..... S.D. 1,100 ft.
Deep Rock's No. 1 Crow, NE SE Sec. 26-22-6 ..... Drlg. 2,450 ft.
Rockstool's No. 1 Wylie, NW NE SW Sec. 6-20-6 ..... S.D. 1,950 ft.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, NW cor. Sec. 14-8-14 ..... S.D. 1,675 ft.

PONTOTOC COUNTY

H. L. Warrick's No. 1 fee, SE SW Sec. 29-2-7 ..... Location.
Gilbert's No. 1 Starritt, NW SE Sec. 28-4-6 ..... Rig.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7 ..... Machine abd.
Delaney's No. 1 Harden, NE SW Sec. 30-2-7 ..... Drlg. 1,170 ft.
Blackwell Oil & Gas Co.'s No. 1 Abbott, NW SW NE Sec. 14-4-6 ..... Sand 1,542-90 ft.
Williams' No. 1 Krath, NE SE Sec. 33-3-4 ..... S.D. 1,545 ft.
Edna Marie's No. 1 McWhirt, NE SE Sec. 11-2-6 ..... S.D. 515 ft.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4. Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW Sec. 22-12-24w ..... S.D. 5,150 ft.
L. C. Hivick's No. 1 Davis, C NW NE Sec. 4-11-26w..... S.D. 3,420 ft.

SEMINOLE COUNTY

English et al's No. 1 Harjo, NE SW Sec. 2-5-8 ..... S.D. 676 ft.
Carter Oil Co.'s No. 1 Keokuk, C N half NW NE Sec. 2-10-6 ..... Drlg. 2,359 ft.
Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8 ..... Sand 1,395-1,405 ft.; water; fishing 1,640 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Montgomery, SW NW SE NW Sec. 23-9-17w ..... S.D. 1,475 ft.
Miley Pet. Co.'s No. 1 Wolfe, NE SW Sec. 23-9-17w ..... Rig.
Cooper & Terhune's No. 1 Blocker, NW cor. Sec. 29-8-19w ..... Show oil 2,459-67 ft.; S.D. 2,767 ft
Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... S.D. 2,160 ft.

Southern Oklahoma

ATOKA COUNTY

L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10.. Drlg. 1,125 ft.
Brookshire's No. 1 R. W. Rowland, NW NE SE Sec. 16-3s-10 ..... S.D. 3,425 ft.

JEFFERSON COUNTY

G. W. Haines' No. 1 Woolsey, SE SW NE Sec. 4-3s-4w (O.W.D.D.) ..... Abd. 2,261 ft.
J. D. Wakefield et al's No. 1 Kelly, NW SE Sec. 1-5s-3w.. Spudded and S.D.

MARSHALL COUNTY

Lee Cross' No. 1 Hamlin, SE SW SW Sec. 26-6S-5 ..... Drlg. 890 ft.
Thomas' No. 1 Setliff, SW SE SE SW Sec. 36-5s-6..... S.D. 780 ft.

McCURTAIN COUNTY

Stampfs' No. 1 Robert Harris, SW NW SW Sec. 14-9s-25.. S.D. 2,778 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW Sec. 35-3s-18 ..... S.D. 2,096 ft.

STEPHENS COUNTY

Bridwell Oil Co. et al's No. 1 Weldon, NE SW SW NE Sec. 13-3s-3w ..... Drlg. 890 ft.
Calif. Prod. & Oper. Co.'s No. 1 Suton, NE SE SW Sec. 13-3s-6w ..... Drlg. 450 ft.
Gillette Bros.' No. 1 Cooley, NW SE NW Sec. 17-2s-5w... Drlg. 2,300 ft.
George's No. 1 Ryan, NW SW NE Sec. 21-2s-15 ..... S.D. 510 ft.

TILLMAN COUNTY

Emenheser et al's No. 1 Pace, C SW Sec. 3-4S-17w..... Location.
Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 36-4s-15w..... Drlg. 350 ft.

West Texas Fields

(Continued from Page 40)

27 feet, bailed small show of oil, dry and abandoned, total depth 1,900 feet. W. H. Hammon's No. 13 Mitchell, oil sand 1,824-25 feet, initial production 10 bbls. of oil and 15 bbls. of water daily, total depth 1,825 feet. Schlaffke & Blair's No. 1 Kinkerman, slight show of oil 166-75 feet, slight show of oil 418-25 feet, dry and abandoned, total depth 451 feet.

Cooke County

Ruewaldt's No. 1 Fischer, dry and abandoned, total depth 2,010 feet.

Young County

Hull & Scarbrough's No. 1 Street, slight show of oil 1,294-95 feet, dry and abandoned, total depth 1,451 feet. King Royalty Co.'s No. 46 Larimore, oil sand 651-57 feet, initial production 50 bbls. daily, total depth 657 feet. John H. Kleiner's No. 1 Kirkland, dry and abandoned, total depth 750 feet. Kleiner & Riggs' No. 12-B Larimore, slight show of oil 652-62 feet, gas sand 696-701 feet, gas and oil 701-04½ feet, initial production 20 bbls. daily, total depth 704½ feet. C. C. Williams' No. 1 Foster, slight show of oil 512-15 feet, dry and abandoned, total depth 605 feet. Womac Oil Co.'s No. 11 Stephens-Roach, oil sand 731-39 feet, initial production 7 bbls. of oil and 3 bbls. of water daily, total depth 741 feet, plugged back to 739 feet.

COMPLETIONS IN RANGER DISTRICT

Brown County

Green & Ice's No. 7 Byler, sand 1,289-1,301 feet, initial production 12 bbls. daily, total depth 1,304 feet.

Callahan County

Grass Roots Oil Co.'s No. 1 Andrews, dry and abandoned, total depth 560 feet. Hunt & Johnson's No. 1 J. Cottle, dry and abandoned, total depth 264 feet. George W. Perry's No. 1 Hickman, dry and abandoned, total depth 462 feet. Star Drilling Co.'s No. 1 Finley, show gas and hole full of water 996 feet, dry and abandoned, total depth 1,000 feet.

Shackelford County

Douglas' No. 7 Carter, sand 610-15 feet, initial production 12 bbls. daily, total depth 615 feet. Freeman and others' No. 2 Morris & Buie, slight show of oil 1,595-1,614 feet, sandy shale 1,614-16 feet, initial production 150 bbls. daily, total depth 1,616 feet. J. R. Hart's No. 1 E. S. Schkade, dry and abandoned, total depth 630 feet. Sedwick and others' No. 1 Shackelford County, dry and abandoned, total depth 954 feet. Union Oil & Mining Co.'s No. 3 Hill, slight show of oil and gas 685-95 feet, initial production 200,000 feet of gas, total depth 740 feet, plugged back to 695 feet. Walker and others' No. 2-A Cox, dry and abandoned, total depth 508 feet.

COMPLETIONS IN PANHANDLE DISTRICT

Carson County

Sinclair Prairie Oil Co.'s No. 1 Cooper, top pay 3,050-88 feet, shot with 95 quarts from 3,062-3,100 feet, initial production 131 bbls. daily pumping, total depth 3,115 feet.

Gray County

Bell Oil & Gas Co.'s No. 2 Tedesco-Webb, top pay 2,525 feet, shot with 200 quarts from 2,563-2,614 feet, initial production 200 bbls. daily on swab, total depth 2,614 feet. Boyles and others' No. 1 Morse, 2,000,000 feet of gas at 2,180 feet, 400 feet of oil in hole 2,524-40 feet, estimated 10 bbls. oil daily, shot with 40 quarts from 2,524-54 feet, dry and abandoned, total depth 2,579 feet. Gulf Production Co.'s No. 2 Catlin, top pay 3,024 feet, shot with 300 quarts from 3,020-3,146 feet, initial production 253 bbls. daily pumping, total depth 3,156 feet. Pulse-Shell Petroleum Corp.'s No. 1 Brown, top pay 3,215 feet, shot with 90 quarts from 3,212-35 feet, initial production 174 bbls. daily pumping, total depth 3,263 feet. Texoma Natural Gas Co.'s No. 1-G Abershold, gas pay 2,495-2,630 feet, initial production 28,000,000 feet of gas daily, total depth 2,685 feet.

Demand for Crude Oil in Kansas Fields Increases Production Steadily Since the First of Year

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

Kansas oil fields produced an average of 99,320 bbls. per day last week, an increase of over 3,000 bbls. per day. Production fell below 90,000 bbls. at the close of 1932, when an average of 89,840 bbls. per day was recorded. In the week ending January 7 production averaged 88,935 bbls.; January 14, 88,585 bbls.; January 21, 91,940 bbls.; January 28, 94,225 bbls.; February 4, 96,310 bbls.; February 11, 99,320 bbls. The increase since January 1 has been over 10 per cent. The State can produce more oil at present than it could in the exciting days of the Towanda Pool in 1917 and 1918, and perhaps more than at any time in its history, but the output is regulated by demand.

The Kansas Public Service Commission announced that the complaint of property owners regarding the All States Petroleum Co.'s location for a drilling well within 50 feet of the property line of H. P. Nachtigal, in Section 21-21-3w, in the Voshell Pool, in McPherson County, will be considered at a hearing in Topeka February 15. The proposed drilling well is an offset to The Texas Company's No. 2 Nachtigal, a producing well.

The commission had set February 6 for a hearing on this matter, but the case was continued. Meanwhile an order forbidding the All States Petroleum Co. drilling operations and shutting in The Texas Company's No. 2 Nachtigal, will be effective.

Pipe Line to Mabee Pool

The Mabee Pool, in the southern part of McPherson County, is to have another outlet for its production in a short time, through a pipe line to be laid by the Globe Oil & Refining Co. to its new refinery at McPherson.

No definite date has been announced for the starting of the pipe line construction work. The line will be approximately 12 miles long. It will be a 4-inch pipe line and will follow the right of way of the old U. S. highway south to a point near the south end of the Voshell Pool, and then angle off in a southeasterly direction to the Mabee Pool.

The finding of production by the Lario Oil & Gas Co. on the east side of the Mabee Pool brought about this pipe line project. The Lario Oil & Gas Co. is a subsidiary of the Globe Oil & Refining Co. The production in the Mabee Pool has been extended south into Harvey County by a new oil well which is believed to have proved a large territory for Hunton lime production.

The Globe Oil & Refining Co. is preparing to use its new 6-inch pipe line from the Ritz-Canton-Decker Field in eastern McPherson County, to its new refinery. The pipe line has been completed but no oil has been shipped. The plant is expected to be in operation in a few weeks.

Sinclair Prairie Oil Co. and Olson Oil Co.'s No. 1 Brack, C SW SW, Section 17-14-10w, Ellsworth County, being drilled on a 15,000-acre block of leases, found Siliceous lime at 3,220 feet and a drill stem test was made from 3,223-53 feet which showed water. The well is shut down at 3,258 feet on account of the cold weather. The test has been logging about 150 feet higher on the Siliceous lime than any other well drilled in the vicinity of Wilson. Some wells in the central western part of Kansas have drilled over 100 feet into the Siliceous lime before oil was found.

Introduces an Amendment

Another proration bill was introduced in the Kansas legislature during the week by Representative Roth of Rush County. The Roth bill provides that Section 52 and Sections 602 to 609, both inclusive, of the revised statute supplement of the 1931 law, being acts relating to and regulating the production of petroleum, be repealed, and that this act shall take effect and be in force from and after its publication in the statute book.

Explaining that he was motivated by sentiment among the landowners in the central western part of the State who believe the oil development is being delayed by the present proration law, Representative Roth introduced in the house this bill to repeal the ratable taking oil law. He is of the opinion that the proration law is not for the best interests of the landowners in Kansas.

There is pending in the house another new proration bill which has the approval of the Oil States Advisory Committee and Thurman Hill, member of the Kansas Public Service Commission.

Derby Oil Co.'s No. 3 Hamm, in Section 33-21-3w, in the Mabee Pool, in McPherson County, found the Hunton lime at 3,466 feet and at 3,469 feet oil rose to the top of the hole. It will be drilled deeper as soon as the weather permits.

Greenwood Developments

In Greenwood County, two drilling tests found water and were abandoned. Downing and others' No. 1 Reser, NE cor. SE NE Section 7-24-12, southeast of Hamilton, is a failure in the Mississippi lime at 1,799-1,822 feet, where it filled with water. In the Quincy area, Morrison and others' No. 1 Gilroy, SE cor. SW NW Section 7-25-13, found the top of the Mississippi lime at 1,606 feet and drilled to a total depth of 1,640 feet. It was making 4 bailers of water and was abandoned.

Big Well in the Chat

The largest producer yet completed in chat in the Voshell Pool, in McPherson County, was Spencer and the Shell Petroleum Corp.'s No. 2-B Neufeldt, SW cor. SE SE Section 16-21-3w. It produced 22 bbls. of oil in a one-hour flow and in 24 hours made 2,400 bbls., pinched in. The well is located in the south extension of the field and is offset by two wells that are chat producers. The top of the chat was found at 3,030 feet and when the well was first completed it was rated at 1,100 bbls. a day, at a total depth of 3,073 feet. Then it was drilled 5 feet deeper and into the big pay.

Nine Wells in Mabee Pool

Nine wells have been completed in the Mabee Pool, in McPherson County. The latest was Derby Oil Co.'s No. 3 Hamm, SE cor. NE Section 33-21-3w, on a mile-long 80-acre lease. The well is estimated at 2,000 bbls. a day from the Hunton lime at 3,455-71 feet. The oil was slopping over the top of the hole. A production test is expected to be made in a few days as soon as the weather conditions are more favorable.

The Derby Oil Co. has three wells on the Hamm lease with a potential production of almost 7,000 bbls. daily. The Mabee Pool, with nine wells has a potential around 18,000 bbls. daily. Several other wells in the field are nearing the pay horizon.

Lario Oil & Gas Co.'s No. 1 Wilke, C SE NE Section 34-20-4w, a wildcat well west of the Voshell Pool, was drilling at 2,500 feet.

J. H. Liggett and others' No. 2 Rainey, SW cor. NE SE Section 3-21-6w, in the Welch Pool, Rice County, is rated at 1,000 bbls. a day from the chat at 3,377-81 feet. There was no water showing and the well will be completed at its present depth. It was estimated to be making 50 bbls. an hour. The well is the first completed in the Welch Pool in several months and has renewed interest in the area.

Clum and others' No. 1 Nelson, NE cor. Section 12-18-4w, is a location in northern McPherson County. It is expected it will be drilled with cable tools.

Chase County

Sheedy and others' No. 1 Leedy, SE cor. Section 36-22-9, was abandoned at 2,730 feet.

Elk County

Denton-Morrow's No. 1 Tate, NW cor. SW Section 28-28-12, was abandoned at 1,790 feet.

Greenwood County

Simmon's No. 1 Jeanerett, SE cor. SW Section 2-22-10, is a location. Paul and others' No. 1 Bryden, NE cor. SE Section 36-25-8, was abandoned at 1,270 feet. Hatfield and others' No. 1 Boon, SW cor. NE Section 7-25-13, was abandoned at 1,659 feet. Harwood and others' No. 1 Barman, NW cor. SW Section 33-22-10, was abandoned at 62 feet. Rhodes and others' No. 4 Norton, SE cor. NE Section 22-22-12, was abandoned at 1,729 feet.

Ellsworth County

R. Grar and others' No. 1 Kroboth, SE cor. NW Section 12-15-10w, was abandoned at 3,216 feet.

Harvey County

Mabee and others' No. 3 Martens, NW cor. NE SE Section 19-22-3w, is a location. Skelly Oil Co.'s No. 3 Martens, SW cor. SE SE Section 19-22-3w, is a rig.

Lyon County

Sheedy and others' No. 1 Atkinson, NW cor. NE NW Section 20-20-10, was abandoned at 2,445 feet.

McPherson County

Lario Oil & Gas Co. and others' No. 2 Neufeldt, NW cor. SW NW Section 34-21-3w, is a location. W. C. McBride, Inc., No. 1 Koehn, NE cor. Section 33-21-3w, is a rig. Gaume & Maxwell's No. 1 Goering, NE cor. SW SW Section 24-21-3w, is a location. Derby Oil Co.'s No. 3 Neufeldt, SE cor. NE SW Section 21-21-3w, made 65 bbls. from 3,080-3,100 feet. Lassen and others' No. 1 Neufeldt, NW cor. NE NE Section 21-21-3w, made 650 bbls. from 3,039-95 feet. Rose Spring Oil Co.'s No. 1 Neufeldt, NE cor. NW Sec-

(Continued on Page 55)

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

BARTON COUNTY

Company, farm and location— Remarks:

Vickers Petroleum Co.'s No. 1 Kerr, NW SE Sec. 15-16-12w ..... Drlg. 316 ft.
Rankin's No. 1 Soocy, C SW NE Sec. 34-18-12w ..... Drlg. 300 ft.
Doherty et al's No. 1 Roesler, SW NE Sec. 11-16-11w .... S.D. 1,975 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE Sec. 16-19-14w ..... Set liner 3,530-46 ft.; show oil; S.D. 3,605 ft.

BUTLER COUNTY

Reeser's No. 1 Hull, NW SE Sec. 8-26-9 ..... S.D. 50 ft.

ELLIS COUNTY

Phillips Pet. Co.'s No. 1 Unknown, C SW Sec. 33-11-17w .. Location.

ELLSWORTH COUNTY

Sinclair Prairie and Olson's No. 1 Brack, C SW SW Sec. 17-14-10w ..... Drlg. 3,000 ft.
Rex Etnyre's No. 1 Arnsman, C SW SW Sec. 10-15-7w ... Rig.
Buckford's No. 1 Burke, C NE SW Sec. 14-14-9w ..... S.D. 50 ft.
Gurley Bros. and Barnsdall's No. 1 Union Pacific, NW SW Sec. 7-14-7w ..... Abd. 3,601 ft.
R. Gear et al's No. 1 Kroboth, SE NW Sec. 12-15-10w ... Sil. 3,209-16 ft.; wtr.; drlg.

GRAHAM COUNTY

Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w ..... Drlg. 3,916 ft.

GREENWOOD COUNTY

Knight et al's No. 1 Moser, NE SW SW Sec. 33-23-12 ... Location.

HARVEY COUNTY

Phillips Pet. Co.'s No. 1 Weeba, NE SE NE Sec. 30-23-2 .. C.O. 2,710 ft.

MARION COUNTY

Farrell et al's No. 1 Williamson, C NW SE Sec. 21-19-4 .. Drlg. 2,485 ft.

McPHERSON COUNTY

Lario O. & G. Co.'s No. 1 Wilke, C SE NE Sec. 34-20-4w .. Drlg. 2,000 ft.
Whan et al's No. 1 Nelson, NW SE Section 18-19-2w ..... Location.
Snyder et al's No. 1 Carlson, SE cor. Sec. 4-19-3w ..... S.D. 2,858 ft.
Sidwell et al's No. 1 Nichols, NE NW NW Sec. 28-17-1w .. S.D. 1,205 ft.

MORTON COUNTY

Hydraulic Oil Co.'s No. 1 State Land, NW SE Sec. 22, 34-43w ..... T.D. 3,640 ft.; temp. abd.

NESS COUNTY

Sinclair Prairie Oil & Gas Co.'s No. 1, C SW SW Sec. 16-19-21w ..... Sil. 4,702-77 ft; wtr.; drlg.
Richards et al's No. 1 Colby, Sec. 17-4-21w ..... Rig.

OSAGE COUNTY

Briggs & Smith's No. 1 Wood, SE NW Sec. 21-14-15 ..... S.O. 2,190-2,300 ft.; temp. abnd.

PRATT COUNTY

Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w ..... Drlg. 3,564 ft.

RENO COUNTY

Skelly Oil Co.'s No. 1 Cole, C SE NW Sec. 4-26-8w ..... Drlg. 3,408 ft.
T. L. Johnson's No. 1 Crotts, NE NW NE Sec. 27-26-10w. Drlg. 120 ft.

RICE COUNTY

Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w ..... Rig.
J. Liggett et al's No. 1 Thodel, C NW NW Sec. 11-21-7w .. S.D. 50 ft.

SALINE COUNTY

Frank Dieter's No. 1 Fulton, SW NW Sec. 14-16-2w ..... Rig.

SEDGWICK COUNTY

Cameron-Great Basin Oil Co.'s No. 1 Landon, C SE NW Sec. 13-28-2 ..... Top Sil. 3,303 ft; abd. 3,531 ft.

STEVENS COUNTY

Argus Prod.'s No. 2 Christopher, C NE Sec. 16-33-39w .... S.D. 5,521 ft.

STAFFORD COUNTY

Atlantic Oil Prod. Co.'s No. 1 Gates, NW SE Sec. 27-21-13w ..... Rig.
Stringer et al's No. 1 Swindle, SW NE Sec. 2-26-11w ..... Spudded; S.D.

SUMNER COUNTY

Deal Oil & Gas Co.'s No. 1 Thompkins, SW cor. Sec. 26-33-1 ..... Machine.

WOODSON COUNTY

Spencer et al's No. 1 Weidel, NW cor. Sec. 5-24-15 ..... T.D. 1,578 ft; P.B. to 1,558 ft.

New Well in Zwolle Pool Starts at 1,200 Bbls.; Dry Hole Near Oil Wells in Miller County

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Feb. 13.—A 1,200-bbl. well in Zwolle, Sabine Parish, Louisiana; a dry hole in Miller County, Arkansas; eight completions and nine new locations in the area as a whole, and a new well in Ouachita Parish, Louisiana, that ran into some wild gas in the Monroe Field, blew out and caught fire, were the past week's highlights in this territory. Two of the completions were in Zwolle, and one was a Sabine Parish wildcat; one a failure in Morehouse Parish; one failure in Miller County, Arkansas; one in Covington County, Mississippi. Two of the completions were good gassers in the Jackson gas field in Mississippi. The locations were divided; one in DeSoto Parish, and one in Jackson Parish, both wildcats; one in Ouachita Parish; one in the Converse area of Sabine Parish, and five in Zwolle.

NORTH LOUISIANA

United Gas Public Service Co.'s No. 1 Meadows, a wildcat deep test in Section 13-21-5, Claiborne Parish, topped anhydrite at 3,800 feet and cemented 9⅝-inch casing at 3,880 feet. The same company's No. 1 Levee Board, Section 27-23-16, Rodessa deep gas district of Caddo Parish, was coring at 5,371 feet with 6-inch cemented at 5,351 feet. Pat Marr's No. 1 Caldwell, Section 23-16-5, Bienville Parish, interesting because it is checking higher than expected, topped chalk at 2,277 feet and was drilling at 2,654 feet. The Jackson Parish wildcat referred to is A. C. Thomas' No. 1 Johns, SE cor. NE NE Section 25-15-3, on which he has derrick up. The DeSoto Parish location is Gounce and others' No. 1 Jenkins, NW cor. SE SW Section 35-13-12, in the old Naborton district.

Southern Carbon Co. made location for No. 15 Fairbanks, 1,920 feet north, 660 feet west of the SE cor. Section 5-19-4, Ouachita Parish, in the Monroe gas field, and had set 8-inch casing at 770 feet when it ran into some wild gas while drilling, which blew out and caught fire.

New locations in Sabine Parish were: Alford & Cleary's No. 2 Patrick, Section 11-9-13, Converse district, and the following in Zwolle: Graham Producing Co.'s No. 1 Liles, SE SW Section 28-8-11; Magnolia Petroleum Co.'s No. 1 Ruth Gingratt, SE SW Section 30-8-11; Pelican Natural Gas Co.'s No. 20 Louisiana Long Leaf Lumber Co., SE NE Section 8-7-11; State Production Co.'s No. 1-B Davis, Section 17-7-10, and The Texas Company's No. 6 Stille, NW NW Section 33-8-11.

Zwolle's big well, Helis and others' No. 1 Sabine State Bank, SW Section 28-8-11, was completed at 2,398 feet and flowed 1,200 bbls. through five-eighths-inch choke in 24 hours. Craig and others' No. 1 Ponder, SE NW Section 15-7-11, spudded and shut down and is abandoned. Paul L. Miller's No. 3 Chadick, SE NW Section 32-8-10, was completed at 2,750 feet swabbing 25 bbls per day after acid treatment failed to help it much. In Morehouse Parish, Feazel & Kalil abandoned No. 1 Davenport, SE NW Section 28-21-6, a wildcat, 3 miles southeast of Bastrop, at 2,510 feet.

Other Sabine wells attracting attention during the week were as follows: Lion Oil Refining Co.'s No. 1 Landis, SE NE Section 30-8-11, in which acid was tried on a good showing of oil at 2,420 feet, without results, was drilled to 2,585 feet where it is dry, and waiting orders. C. D. Neff tried acid on No. 1 Snell, SE SE Section 9-7-11, at 2,650 feet without results, but it has enough oil in the hole to make a small pumper and is waiting for standard rig. Nowlin & Cherry tried acid on No. 1 Turner, NW NW Section 4-7-11, at 2,347 feet and is shut down for orders at that depth. Pelican Natural Gas Co.'s No. 19 Louisiana Long Leaf Lumber Co., SW SE Section 33-8-11, was dry at 2,360 feet and again at 2,444 feet, and is bailing for another test at 2,715 feet. Pugh-Hickman Drilling Co. tested dry at 2,575 feet in No. 1 Blackman, NW NW Section 36-8-12, and is using acid.

In the Converse area, Evans Brothers' No. 1 Cranford, SE SE Section 20-9-13, between the two producers in the area, bailed dry at 1,504 feet in 14 feet of limey shale, drilled to 1,574 feet and are bailing for another test. Lambert and others' No. 1 Edwards, SW NW Section 29-9-13, 1¼ miles southeast of the "discovery" well, cored chalk showing oil at 1,600 feet—about the same depth this well got its show, and are waiting for a string of 6-inch.

ARKANSAS

Miller County's latest disappointment was C. H. Nelson's No. 1 Rose, SE NW Section 4-16-26, the same section in which Baker & McMurray's second successful well is located on the Olivet land. A short distance to the south of this well, Nelson's test was dry and abandoned at 2,971 feet, 34 feet deeper than the Olivet producer, with not much difference in elevations. Johnson & Burnam's No. 1 Beck, SW NE Section 33-15-16, on the north of the Baker & McMurray and Nelson wells, was coring red beds at 3,032 feet without having logged any sand. Stephens, Byars & Sartan's No. 1 Jones, NE NW Section 14-16-27, west of the producers, got a small show on drill stem test at 3,052 feet and was coring in the red beds at 3,115 feet.

McDonald & Carroll's No. 1 Adams, SE SW Section 2-19-26, Lafayette County, had a show of gas in 15 feet of sand at 3,267 feet, bridged, and will run drill stem test when cleaned out.

MISSISSIPPI

The first of the five wells to be drilled by the Eastman-Gardner Lumber interests on their fee land in Covington, No. 1 fee, NE NW Section 29-9-16, was a failure at 3,595 feet. Three of the remaining four wells will also be 3,500-foot holes, the other to go 7,500 feet, according to plans stated by the company at the time the contracts were awarded.

The Hinds County side of the Jackson Field produced Cleve Love and others' No. 2 Security Realty Co., SW SW Section 36-6-1e, making an estimated 30,000,000 feet of gas from 2,461 feet with top of the Midway at 2,354 feet and top of the chalk at 2,447 feet. On the Rankin County side, J. A. Baker and others' No. 2 Rankinside Development Co., Section 6-5-2e, topped the chalk at 2,360 feet and was completed at 2,370 feet, gauging 50,652,000 feet of gas.

Several pools contributed to the net increase of 390 bbls. in the daily average runs from the field for the week ending February 11. Total runs were 61,865 bbls., 30,415 bbls. from North Louisiana and 31,450 bbls. from Arkansas. This was an increase of 440 bbls. in North Louisiana and a decline of 50 bbls. in Arkansas. Miller County, Arkansas, runs dropped from 200 bbls. to 50 bbls. Runs from the several pools were:

NORTH LOUISIANA

	Bbls.
Caddo, light	5,000
Caddo, heavy	1,830
Cotton Valley	625
DeSoto-Red River	1,755
Elm Grove	355
Haynesville	3,940
Holly	215
Homer	2,755
Pleasant Hill	270
Sarepta-Carterville	605
Urania	3,300
Zwolle	9,675
Total	30,415
Last week	29,975
Increase	440

ARKANSAS

Champagnolle	1,500
El Dorado	2,630
Lisbon	450
Miller County	50
Nevada County	905
Smackover, light	2,635
Smackover, heavy	22,450
Stephens	150
Urbana	600
Total	31,450
Last week	31,500
Decrease	50
Both states	61,865
Last week	61,475
Increase	390

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

AVOYELLES PARISH

Company, well, farm name, section and block—	Remarks:
T. J. Woodley, tr.'s No. 1 Thompson & Kolts, 2,640 ft. E, 200 ft. S, NW cor. Sec. 11-2n-5e	S.D. 2,250 ft.

BEAUREGARD PARISH

Beaver Pet. Co.'s (S. T. Ongett, tr.) No. 1 Long-Bell Lbr. Co., 155 ft. S, 725 ft. S, NW cor. NW NW Sec. 34-2s-8w	Set 10-in. 40 ft.
Trapp & Turnbow's (was Trapp Oil Synd.) No. 1 Long-Bell Lbr. Co., Sec. 26-2s-10	Rigging up.
Trapp & Turnbow's No. 1 S. T. Roberts, 150 ft. S and E, NW cor. NW NE Sec. 6-3-10	Location.

BIENVILLE PARISH

Granver Oil Co.'s No. 1 T. J. Lawhon, 150 ft. N and W, SE cor. NE SE Sec. 15-16-8	Derrick.
M. H. Marr et al's No. 1 Caldwell, 450 ft. E, 150 ft. N, center Sec. 23-16-5	Drlg. 2,654 ft.
R. S. Ross et al's No. 1 W. M. Beck, NE NE Sec. 3-18-8	Rig up.
Texana Oil Co.'s No. 1 Lawson, 180 ft. W, 600 ft. S NE cor. NW NE Sec. 28-16-9	S.D. 1,025 ft.

BOSSIER PARISH

Breazelle & Steckoll's No. 1 Nattin, C SW NE, Sec. 15-22-14	S.D. 3,018 ft.
Breazelle & Steckoll's No. 2 Nattin, 300 ft. S and W, NE cor. NW NE Sec. 22-22-14	Moving in rig.
Cryer Oil Co.'s No. 1 fee, 2,400 ft. N, 1,080 ft. E, SW cor. Sec. 25-19-12	Drlg. 1,000 ft.
Gibson Oil Co.'s No. 1 G. C. Lyon, C SE NW Sec. 34-20-14	Derrick pattern.
A. W. Phillips, tr.'s No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW, Sec. 4-18-13	S.D. 1,017 ft.

CADDO PARISH

Belinger & Walker's No. 1 Thompson, SE SW Sec. 16-22-14	Drlg. 2,942 ft.
Rice Bros.' No. 1 Evans, 747 ft. N, 150 ft. W, SE cor. NE NE Sec. 11-20-16	Set 10-in. 20 ft; drlg. 200 ft.

CLAIBORNE PARISH

Leue Oil Co.'s No. 1 Kiner, Sec. 2-21-7	T.A. 3,500 ft.
A. W. Phillips, Tr.'s No. 1 Jehu Knighton, 330 ft. N, 330 ft. E SW cor. NE SE, Sec. 31-20-7	Derrick.
United Gas Public Service Co.'s No. 1 Meadows, approximately 100 ft. S, center E½ E½ Sec. 13-21-5	Set 9⅝-in. 3,880 ft.
Webster Oil Co.'s (was Robertson & Aurand) No. 1 Smith, 300 ft. S and E, NW cor. SE NE Sec. 8-21-7	Shale 1,780 ft; S.D.

DE SOTO PARISH

Baggett et al's No. 1 Moore, 330 ft. S, 330 ft. W NE cor. NW, Sec. 1-13-15	Set 10-in. 60 ft.
Coker et al's No. 1 Boone, 200 ft. N and W, SE cor. SW NW Sec. 13-10-11	Set 10-in. 60 ft.
Donley & Chastain's No. 1 H. Smith, 325 ft. W, 600 ft. N, SE cor. Sec. 31-14-15	S.D. 2,470 ft.
M. B. Gill's No. 1 W. J. Hill, 330 ft. N, 330 ft. E center Sec. 4-10-13	Began drlg. Dec. 1; cmtd. 12¾-in 111 ft.
Gounce et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-12	Location.
Mrs. A. L. Ibach, tr.'s No. 1 Rambin, 250 ft. S and E, NW cor. NE NE Sec. 32-11-11	Drlg. lime 2,360 ft.
E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW Sec. 30-13-15	Cored Oolitic lime showing oil 4,240-60 ft; coring 4,576 ft.
DeSoto Dev. Co.'s No. 1 Nickey, Sec. 7-13-12	Partly rigged up and S. D.
Geo. L. Pace's No. 1 John Cole, 200 ft. N, 150 ft. E, SW cor. SE NE Sec. 11-11-11	Rig up.
G. C. Smith et al's No. 1 Wolluma, 330 ft. N and W, SE cor. Sec. 30-12-13	S.D. chalk 1,520 ft.
E. J. Stanberry's No. 1 Naborton O. & G. Co., Sec. 32-13-11	S.D. fuel 1,250 ft.
State Drlg. & Prod. Co.'s No. 1 Wemple, 380 ft. N and E, SW cor. NW SW Sec. 14-12-11	S.D.; repairs 1,700 ft.
Jack Whitson's No. 1 Sanders, 330 ft. N and E, SW cor. Sec. 19-11-13	Tested dry; top Blossom 2,625 ft. S.D. for cag.; claim 4-ft. sand showing oil; cmtd. 6-in. 2,713 ft; 500 ft. fluid in hole; C.O sand.
Warren & Craig's No. 1 J. A. Wagner, 150 ft. S and W from C, Sec. 5-13-14	Arranging to set 6-in. 2,820 ft.

(Continued on Page 55)

Deep Zone Is Cored in the North Belridge Field; State Production Again Above Allowable

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Feb. 11.—Crude oil production in California, which was reduced last week to 455,000 bbls. per day, rebounded this week, with the result that current production is just about where it was at the close of January. Due to this periodic fluctuation, current production is approximately 20,000 bbls. in excess of the maximum allowable of 440,000 bbls. per day. Over half of the total excess of the state is due to overages in the Huntington Beach, Long Beach and Santa Fe Springs Fields, where a number of operators are consistently overproducing. Major companies and all of the larger independent refiners, including Hancock, Macmillan, Western Oil & Refining Co., Wilshire Oil Co. and others, are making a concerted effort to keep crude oil prices at their present level in the face of declining prices for gasoline in the hope that conditions will rectify themselves in the near future. A check made by the umpire a few weeks ago showed that only 33 operators in the state were producing in excess of their allotted quota.

Lost Hills-Belridge

The most interesting development in California during the past week from a drilling standpoint was the coring of the deep zone in the North Belridge Field by the Ohio Oil Co. The significance which attaches to this discovery lies in the fact that if the Ohio Oil Co. completes No. 1 Bloemer as a commercial producer it will automatically extend the proven limits of the field and indicate the presence of a substantial accumulation in this field. The zone found by the Ohio in No. 1 Bloemer late this week was discovered by the Belridge Oil Co. in 1932, but since no other operator has drilled below the productive Temblor up to the present, the Belridge Oil Co.'s No. 64-27 is the only well to be finished in the Wagonwheel zone. The Ohio Oil Co. has cored 34 feet of saturated oil sand in No. 1 Bloemer at 8,500 feet, and while the bit is still going ahead, an early production test will undoubtedly be conducted. The Ohio's test, located southeast of the Belridge Oil Co.'s discovery well, is running several hundred feet deeper stratigraphically, so that if the former succeeds in developing commercial production, the contour lines probably will be rather close in the southern part of the field. It is interesting to note in this connection, however, that the Ohio Oil Co. failed to pick up the productive Temblor in No. 1 Bloemer, thus indicating, provided that the hole has not deviated from normal vertical, that the lower, or Wagonwheel, zone is substantially larger in scope. Completion of No. 1 Bloemer as a producer will indicate the existence of a substantial accumulation in the lower zone and increase the proven acreage of the field to approximately 1,750 acres.

The Wagonwheel zone, discovered by the Belridge Oil Co. in the North Belridge Field of Kern County in 1932, is believed to be of Eocene age. It is significant to note that if this belief is subsequently proven it may ultimately lead to a revision of existing geological opinion with respect to the present limits of production. If Eocene production is developed in the North Belridge Field, it is logical to assume that it may also be expected to be found productive in other similar fields in the San Joaquin Valley where structural conditions are favorable. This is particularly true of Kettleman Hills, Lost Hills and South Belridge, where none of the deep tests drilled up to the present has been carried deep enough to encounter these rocks.

New Producer

The Belridge Oil Co. has completed another well in the North Belridge Field of Kern County and this new producer, No. 20-35, was brought in flowing 2,260 bbls. of exceptionally clean 40.1 gravity oil per day from the Temblor at 5,452 feet, the hole having been completed with a 6⅝-inch liner carrying 305 feet of perforated. Upon the completion of this new well, the company moved the crew to No. 63-27, where preparations were immediately started to begin making new hole. The Associated, which is drilling a deep test in the Lost Hills Field of Kern County in conjunction with other operators holding adjacent acreage, was obliged to recement the 22-inch water string landed in No. 1 Williamson at 1,992 feet, as the first job proved unsuccessful. The company has used 2,250 sacks of cement in the two cement jobs on the 22-inch casing. It is the present intention to land 16-inch casing below the high head water expected to be encountered in this well around the 4,000-foot level and proceed thereafter to drill ahead in search of commercial production. The productive Temblor is expected to be picked up in No. 1 Williamson around 4,500 feet, but adequate preparations have been made to drill down to the 11,000-foot level if necessary.

Mount Poso

The Shell Oil Co. has completed No. 6 Security, a new well in the Mount Poso Field of Kern County, and preparations have already been started to spud in No. 3 Glide in Section 15-27-28. The Shell's new producer, bottomed at 1,792 feet and finished with a 6⅝-inch liner carrying 336 feet of 130-mesh screen, was brought in pumping 945 bbls. of exceptionally clean 16.2 gravity oil per day. Shell's No. 6 Security is an offset to the company's No. 6 Vedder, a recent completion. This new work was rendered necessary because of lease requirements and was not undertaken because of any desire to increase the allowable daily production of the field. As a matter of fact, all of the major companies holding productive acreage in the Mount Poso Field of Kern County are strictly adhering to curtailment restrictions. Two new wells have been spudded in at Round Mountain during the past week or 10 days and since both of them are located in proven territory they should be completed some time during the next 15 days. These two new wells are Petroleum Securities Co.'s No. 4 Coffee and the Chanslor-Canfield Midway Oil Co.'s No. 6 Poso. Preparations are being made to drill two new wells in the Mount Poso Field and the bit in each case is expected to begin making hole within the next few days. The subsurface formation in the Mount Poso Field is conducive to fast footage so that these new wells may possibly be completed before the close of the current month. The speed with which new wells can be drilled at Mount Poso is evidenced by the fact that Shell's No. 6 Security was drilled from spud to completion in a total elapsed time of 20 days.

Buttonwillow

The Milham Exploration Co. has completed drilling operations on No. 3 Whitaker in the Buttonwillow gas field of Kern County and this potential producer should be finished within the next several days. The Milham interests have been consistently building up a potential gas production in the Buttonwillow Field for over a year and are consequently in a position to go on commercial gas production at a moment's notice. Due to the prolific tendencies of wells in the North Dome of Kettleman Hills, Buttonwillow has been more or less relegated to the background, but the latter field will sooner or later become a factor of consequence in commercial gas production on the Pacific Coast. Drilling operations in the Fruitvale Field of Kern County have shown a consistent decline during the past several months, and this field is expected to become of less importance as time goes on. Several wells in this area are being rigged up preparatory to early spud, and while drilling operations may fluctuate from time to time, the field has definitely passed the peak of flush production. In the Gould Hills district, north of the McKittrick Field of Kern County, Tom H. Purman is making preparations to drill out No. 1 in Section 22-29-21, following a recement job on the 9-inch landed at 4,848 feet. This well, following the first cement job, flowed by heads between the strings of casing, indicating a partial ineffective shutoff which necessitated a recement job. Purman's No. 1 in the Gould Hills is bottomed at 5,398 feet and may bear watching during the next several weeks, as it has shown more than ordinary indications.

Weed Patch

The Mohawk Petroleum Co. has staked location for a new test to be drilled in the Weed Patch, or Mountain View Field, of Kern County, and material is expected to be placed on ground within the next 15 days. The Mohawk's new well, which will be drilled on the Hood lease in Section 30-30-29, is more or less of a wildcat. It will be recalled that the Shell Oil Co. focused the attention of operators on the Weed Patch, or Mountain View area, a few years ago when No. 1 Porter Day, a wildcat, showed a potentiality of 2,000 bbls. per day. After testing out the upper zone, the Shell redrilled and deepened No. 1 Porter Day in order to determine the possibility of developing deeper production below the Porter zone. Subsequent deep drilling proved unsuccessful and, although No. 1 Porter Day produced at the rate of approximately 2,000 bbls. per day, on a preliminary production test in the upper zone, it failed to reveal the existence of a second productive horizon. The Shell was never able to recomplete No. 1 Porter Day in the upper zone after the hole was deepened in search of lower production, but those who witnessed the initial flow recognize the existence of a field of at least secondary importance. Those in close touch with development work during the past few years share the belief that the Shell Oil Co. can open up a new field in the Weed Patch as soon as it desires to do so. The trend and extent of this projected field is more or less conjectural in view of the limited development undertaken up to the present time, but a 2,000-bbl. well in any area is almost conclusive proof that a field of some consequence is located in close proximity. Irrespective of the outcome of drilling on Mohawk Petroleum's No. 1 Hood, the Weed Patch, of Kern County, will be heard from at a later date.

Long Beach

Two wells were put on production in the Long Beach Field of Los Angeles Basin during the week, and a check of development work indicates the probability that several additional completions may be anticipated within the next 15 days. The completions chalked up during the current week were Plymouth Oil Co.'s No. 12 Signal and Western Oil & Refining Co.'s No. 12 Harding. The former, plugged back from 7,356 feet to 5,811, was brought in pumping 132 bbls. per day, while the latter, plugged back from 6,790 feet to 6,494 feet, was finished pumping 165 bbls. per day.

Huntington Beach

The Seventeenth Street town lot section of the Huntington Beach Field has sprung back into the limelight after an inactivity of several years, due to reconditioning work and the starting of several new holes during the past few weeks. The Wilshire Oil Co. centered the attention of operators on this field a few weeks ago and interest was subsequently intesified

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	Jan. 28		Jan. 21			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Fuel oil	.....	.....	74,775	10,682	74,775	.....
Diesel and gas oil	267,956	38,279	74,458	10,637	444,173	.....
Gasoline	116,931	16,704	.....	.....	508,562	585,984
Kerosene	.....	.....	.....	.....	250,130	.....
Foreign exports—						
Crude oil	280,596	40,085	5,050	721	494,792	453,597
Fuel oil	70,676	10,097	307,193	43,885	700,859	745,994
Diesel and gas oil	84,959	12,137	104,312	14,902	317,406	128,069
Gasoline	166,307	23,758	103,865	14,836	569,834	879,727
Kerosene	58,823	8,403	11,445	1,635	134,053	184,677
Naphtha distillates	.....	.....	.....	.....	.....	41,175
Coastwise-domestic—						
Crude oil	225,924	32,275	188,913	26,988	863,672	1,386,703
Fuel oil	302,352	43,193	119,798	17,114	881,642	1,493,382
Diesel and gas oil	6,536	934	61,591	8,799	161,678	226,474
Gasoline	291,626	41,661	100,420	14,346	972,058	1,002,530
Kerosene	.....	.....	3,990	570	16,696	16,527
Naphtha distillates	.....	.....	27,651	3,950	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	99,426	14,204	104,050	14,864	203,476	.....
Kerosene	.....	.....	.....	.....	154,070	.....
Foreign exports—						
Crude oil	156,073	22,296	.....	.....	156,073	57,325
Fuel oil	61,884	8,841	.....	.....	129,709	380,408
Diesel and gas oil	114,709	16,387	.....	.....	149,278	110,462
Gasoline	197,503	28,215	243,925	34,846	580,550	269,521
Kerosene	90,625	12,946	20,675	2,954	139,143	106,486
Lubricants	10,847	1,550	.....	.....	13,072	.....
Coastwise-domestic—						
Fuel oil	.....	.....	60,311	8,616	116,698	234,342
Diesel and gas oil	.....	.....	4,494	642	17,467	110,648
Gasoline	30,114	4,302	115,894	16,556	227,559	414,411
Kerosene	2,893	413	5,314	759	14,953	.....

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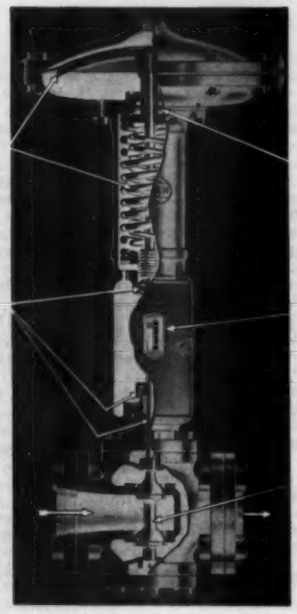

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by completion of the Vicaroo Oil Co.'s No. 1, a recent completion. Crude oil production has been more or less out of line at Huntington Beach during the past few weeks, with the result that the situation was intensified by the recompletion of former upper zone producers and the drilling of new wells. Field reports indicate the probability that this particular area of the Huntington Beach Field will become of more consequence during the next 30 to 60 days.

The latest well to be completed in the Huntington Beach Field was Southern Drilling Co.'s No. 1 Severns, which was brought in pumping 450 bbls. of 26.2 gravity oil per day from 4,490 feet.

Ventura Avenue

The Associated increased its list of producers in the Ventura Avenue Field during the week when No. 26 V.L.&W. was brought in flowing 1,037 bbls. of relatively clean 29.2 gravity oil and 1,125,000 feet of natural gas per day from 7,498 feet. No. 21 V.L.&W. was reported swabbing and flowing by heads late this week at the rate of 200 bbls. per day from 7,125 feet, but due to the cut reported there is some doubt as to whether a satisfactory water shutoff has been effected. The Shell Oil Co.'s No. 74 Taylor, which was given a preliminary production test several days ago, has subsequently cleaned up and is flowing 874 bbls. of relatively clean 30.8 gravity oil per day from 6,365 feet. Drilling operations were quiet in Santa Barbara County during the week. Several reconditioning jobs are under way in the Elwood Field of Santa Barbara County. Operators in this area have found that crude oil production can be stimulated by putting wells on the beam instead of permitting them to produce on the gas lift. In several instances the production of wells producing from the Vaqueros has been doubled when taken off the gas lift and pumping equipment installed. Elwood operators have been underproducing for the past several days in order to build up an underage so that the field will not be out of line during the next several weeks when wells are put on the beam.

The Standard has filed an abandonment notice on its Santa Rosa Island wildcat at 6,287 feet and, since drilling equipment is being hauled back to the main line, is not expected to proceed with any

(Continued on Page 55)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	8-	2-	15	7,414	suspended
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12-	2-	15	6,238	suspended
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2-	2-	15	3,401	suspended
Williams Oil Co., No. 1 Moneta, Los Angeles Co.	23-	3-	14	rig	suspended
Pan Tex Oil Co., No. 1 Lawndale, Los Angeles Co.	20-	3-	14	171	sd. drilling
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7-	2-	14	5,863	suspended
Kupfer, A. N., No. 1 Inglewood, Los Angeles Co.	17-	2-	14	4,090	suspended
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19-	3-	13	4,635	cleaning out
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28-	4-	13	3,014	suspended
Wilmington Oil Co., No. 1 Wilmington, Los Angeles Co.	28-	4-	13	820	cemented
Jones, W. L., No. 1 Lyndwood, Los Angeles Co.	31-	2-	12	4,480	suspended
Hutcheson & Andrus, No. 1 El Monte, Los Angeles Co.	11-	1-	11	1,397	suspended
Willetts Pet., No. 1 Saugus, Los Angeles Co.	25-	5-	16	1,469	hd. sd. drilling
Smith, J. A., No. 1 Saugus, Los Angeles Co.	32-	5-	17	3,515	suspended
Hudson Pet., No. 1 Newhall, Los Angeles Co.	1-	3-	16	501	fishing
Garliepp, F. J., No. 1 Newhall, Los Angeles Co.	14-	3-	16	193	suspended
Ball, W. T., No. 1 Newhall, Los Angeles Co.	24-	3-	16	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32-	4-	16	1,573	sd. sh. drilling
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6-	2-	16	1,598	suspended
Nuoil Co., No. 1 Newport, Orange Co.	29-	6-	10	2,743	hd. sd. drilling
Mineral Exploration, No. 1 Capistrano, Orange Co.	8-	8-	7	4,233	suspended
Orangethorpe Pet., No. 1 Brea, Orange Co.	32-	3-	10	4,560	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	35-	7-	10	3,590	suspended
Keeley, H. J., No. 1 Corona, Riverside Co.	21-	4-	6	128	sd. drilling
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8-	4-	6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25-	1-	2	2,392	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18-	2-	8	1,509	rebuild. rig
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-	17-	15	680	suspended
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-	11-	16	774	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.	T.	R.	Depth	Status—
Standard, No. 1 Santa Rosa Island, Santa Barbara Co.	unsurveyed			6,287	abandoning
Meganos Oil Co., No. 1 Lompoc, Santa Barbara Co.	28-	8-	34	....	material
Smith, E. W., No. 1 Purisima, Santa Barbara Co.	18-	7-	34	1,471	abandoned
Smith, E. W., No. 1-A Purisima, Santa Barbara Co.	18-	7-	34	....	location
Duell, O. S., No. 1 Naples, Santa Barbara Co.	7-	4-	29	5,132	suspended
Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co.	24-	4-	29	3,750	suspended
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	25-	4-	29	4,089	suspended
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-	10-	27	2,387	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4-	3-	24	6,371	fishing
Indian Pet., No. 1 Rincon, Ventura Co.	tideland			2,116	cleaning out
Commander Oil Co., No. 1 Fillmore, Ventura Co.	13-	4-	19	2,254	suspended
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13-	4-	19	1,522	suspended
Honolulu Consolidated, No. 1 Miguelito, Ventura Co.	23-	3-	24	4,520	sd. sh. drilling
Continental, No. 2 Miguelito, Ventura Co.	23-	3-	24	mtl.	building rig
C.C.M.O., No. 3-A Miguelito, Ventura Co.	23-	3-	24	....	material
Macrate, A. N., No. 1 Ojai, Ventura Co.	27-	4-	23	1,711	sd. sh. drilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	26-	4-	21	1,601	br. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22-	4-	21	816	cleaning out
Hardison & Temple, No. 1 Timber Canyon, Ventura Co.	22-	4-	21	248	suspended
Petro Producing Co., No. 1 Timber Canyon, Ventura Co.	18-	4-	20	2,482	cleaning out
Wilshire Oil Co., No. 1 Bardsdale, Ventura Co.	12-	3-	20	939	cleaning out
International Oil Developers, No. 1 Conejo, Ventura Co.	33-	2-	20	2,604	hd. sd. drilling
Anderson, C. L., No. 1 Santa Susana, Ventura Co.	36-	3-	18	371	sd. sh. drilling
Milham Exploration, No. 23 Buttonwillow, Kern Co.	8-	28-	23	3,362	cemented
Purman, T. H., No. 1 Gould Hills, Kern Co.	22-	29-	21	5,399	recemented
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-	29-	21	298	sd. sh. drilling
General Pet., No. 1 Beiridge, Kern Co.	30-	28-	21	3,260	suspended
Cumberland Oil Co., No. 2 Devil's Den, Kern Co.	17-	26-	18	3,270	suspended
Hollaway, A. S., No. 1 Devil's Den, Kern Co.	11-	25-	18	1,732	br. sh. drilling
Hanna, Tom, No. 1 Devil's Den, Kern Co.	26-	25-	18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devil's Den, Kern Co.	24-	25-	18	2,901	sd. sh. drilling
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-	26-	19	3,170	suspended
Ohio Oil Co., No. 1 Beiridge, Kern Co.	36-	27-	20	8,500	oil sand
Associated, No. 1 Lost Hills, Kern Co.	2-	26-	20	1,998	recemented
Seminole Oil Co., No. 1 Lost Hills, Kern Co.	29-	25-	21	rig	suspended
Mohawk Pet., No. 1 Weed Patch, Kern Co.	30-	30-	29	....	location
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-	16-	23	2,970	suspended
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-	12-	11	1,206	sd. sh. drilling
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-	15-	18	3,191	sd. sh. drilling
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-	13-	13	....	material
Kent & McDonald, No. 1 Carrizo Plains, S. Luis Obispo Co.	2-	32-	22	3,815	suspended
Emerich Oil Co., No. 1 Carrizo Plains, S. Luis Obispo Co.	22-	32-	22	1,841	suspended
Texas Pacific Oil Co., No. 1 Edna, San Luis Obispo Co.	25-	32-	14	3,945	prod. test
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-	27-	11	4,191	suspended
Shell, No. 1 San Miguel, San Luis Obispo Co.	4-	25-	12	4,800	sd. sh. drilling
Pacific Inland, well No. 1, Monterey Co.	19-	23-	15	2,441	suspended
Thomas Pet., No. 1 Parkfield, Monterey Co.	32-	22-	14	1,011	suspended
Guess, R. B., No. 1 Corcoran, Kings Co.	7-	21-	21	6,197	suspended
Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co.	8-	23-	20	3,012	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-	23-	17	6,360	br. sh. drilling
Kettleman Ridge Oil Co., No. 1 Avenal, Kings Co.	10-	23-	16	rig	suspended
Magee & Stone, No. 1 Alpaugh, Kings Co.	34-	24-	22	5,060	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-	24-	27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-	17-	24	2,092	suspended
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.	20-	24-	23	1,490	suspended
Napa Oil Co., No. 1 Griffith, Napa Co.	7-	8-	3	3,273	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5-	2-	10	4,813	suspended
Rushing Oil Co., No. 1 Waterford, Stanislaus Co.	20-	3-	13	2,653	sd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-	12-	3	3,045	suspended
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-	16-	1	2,791	sd. sh. drilling
Tehama Pet. Co., well No. 1, Tehama Co.	4-	22-	15	1,903	hd. sd. drilling
Oriand Synd., No. 1 Oriand, Tehama Co.	31-	23-	3	3,400	cleaning out
Marker Drlg. Co., No. 1 Oriand, Tehama Co.	21-	25-	5	3,030	cleaning out

Humble Has Producer in Serpentine in Bastrop County, Texas, Which May Open Pool

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Feb. 13.—Humble Oil & Refining Co.'s No. 1 Annie Hassler in southern Bastrop County, in Serpentine from 2,468-2,577 feet, on drill stem test flowed nine and one-half minutes, and looks like the discovery well of one of the best Serpentine finds discovered since the Lytton Springs and Dale Fields of several years ago. The valve was closed as soon as the well started flowing through the drill stem. Casing was set last Thursday and the well was due to be drilled in about Tuesday of this week. The oil is 38 gravity, corrected, and is about the same as in the other Serpentine pools of Southwest Texas, including those in Williamson and Caldwell Counties.

No. 1 Annie Hassler is on a block the company started collecting two years or so ago and is about 8 miles southwest of the town of Bastrop and about the same distance northeast of the Dale Pool in Caldwell County. It is 750 feet from the west line and 330 feet from the south line of the Hassler tract, shown as the Henry Beck 118-acre tract on some maps, and is 330 feet from the south line of the Samuel Wolfenberger Survey and about the middle of the survey east and west.

Three miles southwest of it last summer Parsons and Mayfield drilled in a small Serpentine well at 2,248-2,378 feet in the southwestern part of the Andrew Mays Survey and at about the same time Ogden & Reed's No. 1 Riddle, 4 miles farther southwest, came in with an initial production of around 90 bbls. a day at 2,169-2,233 feet.

The first Serpentine Field in the world was the Thrall Field in Williamson County brought in many years ago. Next was a small field in Cuba producing and the third was the Lytton Springs Field in Caldwell County, the biggest pool yet discovered in that formation. It is of volcanic origin, an intrusion at a time when the Austin chalk was the surface of the ocean, and the oil in it has migrated from other formations. The Serpentine generally lays above the chalk. Serpentine consists essentially of a hydrous magnesium silicate having a dull green color often spotted or mottled like a moving serpent.

The Lytton Springs Pool was discovered early in the year 1926 by Lefevre and Story, and the yearly production from the field has been as follows:

Year	Barrels
1926	2,715,566
1927	1,828,150
1928	739,645
1929	484,782
1930	314,690
1931	285,701
1932	211,728
Total	6,580,262

There is about 1,300 acres in the pool and the recovery per acre down to December 31, 1932, has been a little over 5,000 bbls. There are now 210 wells producing in the Lytton Springs Field and there were a total of about 325 producers drilled in the field. The experience with Serpentine fields seems to be a big flush production at first and quick dropoff, but the fields are quite profitable because of the low cost of development. Wells are drilled and completed in a few days.

E. R. Thomas' No. 1 Alexander, a few miles southwest of the Dale Field in Caldwell County, in the direction of the Luling Field, cored Edwards lime at 2,300-2,305 feet with an odor of oil and was preparing to make a drill stem test. It is in the William Spillers Survey.

The Amerada Petroleum Corp. is rechecking its geology in Frio County since No. 1 Halff & Oppenheimer came in a failure in the Edwards lime, to see if there is any reason for making a new location. In the meantime there is considerable new activity along the Balcones. In northern Lee County the Paton test has got pretty well started on the Turner farm near Tanglewood. Two attempts were made to get down to the Edwards and on both occasions the hole was lost. It is scheduled to go to around 6,000 feet.

In the western extremity of Lee County Sayres Oil Co. made a location on the Rister farm in the Jamison Survey and has the derrick up for an Edwards lime test, and some tests are reported being framed up for eastern Bastrop and eastern Guadalupe and one is under way in southern Bexar County and one in northeastern Frio County.

In the western part of the Balcones fault zone and north of the fault proper in Kerr County a test has been abandoned in the Pennsylvania, and while arrangements have not been completed it is understood there will likely be some further efforts at finding a pool in that part of the county, the first test on the Jeff Love farm having shown quite a lot of oil and for a time was on the pump.

Revised Geology

Opinion of geologists is changing with reference to the northern Duval County fields and instead of a fault line running generally north and south and lying to the west of the pools there is a theory that the whole proposition follows an old shore line and that the structures were built up something like the processes now in operation north and south of Corpus Christi, where there is a series of sand bars. During subsidences these sands are covered with other formations and on subsequent rises are again covered by sands and formations are picked up low on the west due to anticlinal conditions rather than a faulted condition. It is said to be a more reasonable explanation of the conditions in the field than the faulted theory. It seems to account for the showing of gas and oil in the Brogan well in the southeastern corner of Survey No. 55 and the oil showing in the Scott well in Survey 56, each of them more than a mile west of production.

The only development in the wildcatting in the territory north of the Government Wells district is the abandonment of the Buchanan, Schoolfield & Frasher No. 1 Pursch in Survey No. 115 near the south line of McMullen County. It got the producing sand in the Government Wells Field at 2,434-41 feet but it showed only a slight trace of oil and the hole was abandoned at 2,537 feet.

Northern Duval County

North Government Wells Pool was pushed out a little farther in some directions the past week with some edge completions. Reynosa Oil Corp.'s No. 4 Hahl, at the north end of the pool, in Survey No. 42, came in for 45 bbls. hourly at 2,293 feet with sand from 2,273-93 feet. It offsets wells to the west and south but there is none north and east of it.

In the same survey, on the west side, The Texas Company's No. 6 Johnson came in a gas well at 2,255 feet. One location east of it is the company's No. 2, an oil well, and 2,000 feet west is the Violet Oil Co.'s gasser in Survey No. 41, an outpost well. The Texas Company's No. 6 Johnson would seem to indicate that all that territory to the west is to be gas territory.

At the south end of the field the Magnolia Petroleum Co.'s No. 1 Hahl-Weiderkehr at 2,240 feet came in for 90 bbls. daily and The Texas Company's No. 3 D. J. Freer, an east offset to it, started at 150 bbls. daily. The Magnolia well is also offset on the south but there is nothing directly north or west. The size of the well, being a little small, would seem to indicate that production can not be expected to extend much farther to the west.

Laurel Pool—Webb County

In the Laurel Pool two tests have set casing and are waiting for cement and will likely drill in early this week, and each is an important well. Parr Oil Co.'s No. 1 Gates in Survey No. 272, a half mile west and some south of the six producers in the Dyck or south extension of the Laurel Field, got a good-looking sand at 2,128-42 feet and set casing without waiting to make a drill stem test. L. M. Kaiser, about a half mile east of the field, got a sand at 2,194-2,210 feet and it also set casing. These two wells have revived interest in that part of the field. The Reward Oil Co.'s No. 2 Laurel came in for about 150 to 200 bbls. daily just north of the six other producers in that end of the field.

Saxet Field—Nueces County

Houston Oil Co.'s No. 2 McGregor, in the Saxet Field, tested 12 fourbles of oil in 12 minutes and with 140 pounds pressure and has set casing with sand at 4,860-76 feet. This is one of the few wells in the field that has gone to that sand. The drill stem test leads to the expectation that it will make quite a well. It will be some time the middle or last of this week before it can make a test. Violet Oil Co.'s No. 1 McGregor-Belk is reported in the same sand at 4,839 feet. Due to heavy gas pressure which it has been fighting for some time in the No. 3 Bliss, the Gulf Port Oil Co. has closed the well in and shut down for a time.

New Gasser in Zapata

S.R.C. Oil Co.'s No. 1 T. Trevino in Survey No. 60 in Zapata County about 2 miles east of the Escobas Pool, and nearly a wildcat, came in at a big volume of gas on drill stem test in sand at 1,684-95 feet showing 350 pounds in five minutes and has set casing.

Winch & Billings recently got a gas well at about the same depth a mile south and from that extending north a distance of about 9 miles there are scattered gas wells in that horizon at intervals of 1 to 3 miles evidencing efforts of operators to find some oil on that structure but without success thus far.

Bee County

There is some renewed interest in the Pettus and North Bee County district. The Texas Company has had a location for months for No. 2 Cox in the Tuleta Pool, but has changed it to 330 feet from the south and east lines of its 80-acre tract, equivalent to 330 feet from the south and east lines of SW Section 2, and will drill it. Taber & O'Neil's No. 1 Harris, on the south end of the field and the second test to go into the Yegua sand after standing for a couple of months, is perforating the casing at the Pettus sand, 200 feet up, and will try to make a well of it there. It made salt water in the Yegua.

The most important happening of the week is the Aztec Royalty Co.'s deal with the Gulf Production Co. The Aztec company is to drill on Gulf acreage, which offsets Dirks Brothers' No. 1 fee on the south. The Dirks No. 1 fee missed production in the Pettus sand and drilled to the Yegua where it made a well which came in for good oil production at first but started going to salt water soon.

In Kendall County

Verland Trust Co. shot No. 2 Willie Werner in Kendall County with nitroglycerin but has been unable to complete and clean out the hole since and it has been abandoned at 970 feet. This was the first test drilled since P. B. Sterling brought in No. 1 Willie Werner, completing it for an oil well, and then shutting it in about two years ago. Following considerable delay due to Sterling's death those interested with him reorganized and drilled No. 2. That hole has been lost, but the understanding is another location will be made. No. 2 showed considerable oil but it was thought a better well could be made of it by shooting.

R. S. Wilson's No. 1 Gray, in Williamson County, 1,140 feet total depth, and in the chalk, is being given the acid treatment. This is the second acid test to be tried in the Balcones fault zone.

Live Oak Petroleum Co.'s No. 2 Jim Harper, in northern Live Oak County, at 968 feet seems to be running high as compared with No. 1 which had quite a showing of oil at 1,100 feet. No. 2 was expected to get into the same sand early this week. No. 1 was not completed but looked at the time like a small well of at least a barrel or two a day, maybe more.

Frozen Water Pipes

Two nights the early part of last week the temperature went far below freezing in Southwest Texas and water pipes all over the country were frozen, causing considerable delay in field work. Also it was too cold for Southwest Texas people to work. As a result poor progress was made everywhere.

Wildcat Operations in Southwest Texas

Week Ending February 11

ARANSAS COUNTY

Company, farm and location—	Remarks:
F. E. Kestler's No. 1 McCampbell, 150 ft. from N and E lines of Lot 1, Blk. 68, McCampbell ranch	T.D. 4,220 ft; drlg.

ATASCOSA COUNTY

Jacob, Buzzini & Pickett's No. 1 Roundtree, 330 ft. from NE and SE lines of W¼ of J. Pointevant Sur. 1.	T.D. 600 ft; drlg.

BANDERA COUNTY

Van Winkle's No. 1 R. B. Watson, 600 ft. N of cen. of S line of Sec. 71	T.D. 400 ft; standing, showing gas; waiting for 10-in. csg.
E. A. Parkford's No. 1 Duke, 200 ft. from S line, 150 ft. from W line of Sec. 7, G.C.&S.F. Sur.	Comp. road and given 90 days' extension to Feb. 18.

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Report Eight Completions in Central West Area; Kentucky Well Makes 700 Barrels Initial

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Feb. 13.—No completions were reported from the old Lima Field in northwestern Ohio, although quite a number of wells are nearing the pay sand and others are shut down awaiting better weather. In new work the Tiffin Field in Seneca County has most activity, followed by Wyandot County, and scattered wells over several other counties are under way. In Seneca County, Hopewell Township, Green and others are shut down at 1,537 feet in No. 1 on the Mary McElhaney farm, Section 15. Miller and others are reported drilling at 1,481 feet on the L. D. Creeger farm, Section 10; J. L. Barrett is drilling No. 1 on the T. N. Einsel farm, Section 1, and the Sandusky Gas Co. is drilling No. 1 on the Clement B. Conrad farm, Section 3, while W. I. Gettman and others are drilling No. 2 on the Frances L. Crum farm, Section 12, all in Hopewell Township. In Liberty Township, R. E. Greene is drilling No. 3 on the T. C. and B. G. Shaull farm, Section 30, Bonawit & Onsel are drilling on the Mary E. Smith and heirs farm, in Pleasant Township.

In Wyandot County Newcomer and others are shut down at 1,913 feet on the Albert Reber farm, Section 1, Pitt Township; R. W. Kirk and others are drilling a second test on the Elmer E. Moser farm, Section 12, Ridge Township; McPheron and others have a rig on the Carl Smith farm, Section 35, Crane Township, and Harpster and others are still shut down at 1,500 feet on the L. G. Beis farm, Section 11, Crawford Township, same county.

CENTRAL OHIO

Eight completions were reported in the Central Ohio Field, two being producers with an initial of 25 bbls. two dry holes and four gas wells. In Belmont County, Richland Township, John Lochary's test on his own farm, in Section 21, produced 20 bbls. from a depth of 2,120 feet. A. C. Peters and others' test on the John Pokarie farm, Section 36, Somerset Township, same county, is a gas well. King and Tanner have a rig for a second test on the Charles McLaughlin farm, same section and township. In Warren Township, same county, Robert Lewis and others are drilling No. 2 on the Josephine Turner & Co.'s farm, Section 22. Bradfield and others are around 700 feet in No. 4 on the John Shutway farm, Section 35, Union Township. O. K. Oil & Gas Co. is drilling around 450 feet in No. 3 on the E. E. Brown farm, same section, and Wood and others are shut down at 135 feet in No. 2 on the Walter Rudolph farm, same township, and in Belmont County.

In Stark County Jackson Township, Sisler and others have a gas well in No. 5 on the Eva M. Sisler farm, Section 21, at a depth of 4,291 feet. Brendel Producing Co. made a location for No. 10 on the Lake Cable Co. property, in Section 22, same township. Pfeiffer and others are drilling No. 1 on the W. and F. Immel farm, Section 2, same township. East Ohio Gas Co. has a rig on the Stella Strausser farm, Section 18, Plain Township, same county, the location being changed from the Frank E. Deems farm, in the same section, which was abandoned.

In Guernsey County C. C. Wharton and others found a dry hole in No. 2 on the A. C. and Mary J. Linn farm, Section 9, Westland Township, in the Injun sand at 800 feet.

In Fairfield County the test being made by Charles Blume and others on the Francis E. Nye farm, Section 35, Rush Creek Township, was reported showing for 5 bbls. from the Clinton formation at 2,653 feet.

In Meigs County, Salisbury Township, Delong and others found a dry hole on the Mary E. Tracy farm, in Section 33, at 1,037 feet. Joe Rubin drilled in a light gas well in No. 2 on the E. Harper farm, Section 27, same township, at 1,086 feet.

INDIANA

Development work is holding its own in the various parts of the state of Indiana, covering a great number of counties, mostly on the wildcat order. In Daviess County, Harrison Township, the Indiana-Southwestern Gas Corp.'s test on the Henrietta Goslin farm, SW Section 9, is a gas well with 250,000 feet from 745 to 764 feet. J. E. Howes and others' test on the Ross Brothers farm, Section 32, Veale Township, same county, is reported showing for a 5-bbl. producer.

In Spencer County the Packard Oil Co.'s test on the Arthur Ray farm, Section 11, Huff Township, is reported good for 10 bbls. initial from the Cunningham sand formation. Van's Oil Co.'s No. 6 on the G. A. Grass farm, same section and township, is reported good for 5 bbls. E. M. Treat and others are drilling on the Raymond Bretz farm, NE Section 34, Ohio Township, same county.

In Sullivan County Jackson Township, the Jackson Hill Coke & Coal Co. drilled a dry hole on its fee land, SW Section 10.

In Hancock County, the Vernon Natural Oil & Gas Co. drilled in a light gas well on the John W. Hudson lot, in the town of Fortville, in Brandywine Township.

In Tippecanoe County, Tippecanoe Township, the Coats-Smith Oil Co.'s test on the property of the Methodist Episcopal Church, in Section 27, is a dry hole in the Trenton lime formation at a depth of 650 feet.

In Stark County Henry A. Joern is drilling on the Wanda H. Joern farm, NW Section 36, Davis Township.

In Martin County Sproull and others are drilling a second test on the John Larkin farm, SW Section 19, Perry Township.

In Monroe County the Ohio Oil Co. and Petroleum Exploration Co. are drill-

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Fair Gas Well in New Southeastern Ohio Pool; Slow Progress Made in Eastern Wildcats

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Feb. 13.—Another fair gas well was completed in the new pool being developed in Union Township, Belmont County, Southeast Ohio. On the Alice Adams farm in Section 29, the O. K. Oil & Gas Co. completed a second test in the Salt sand at a depth of about 1,085 feet which is rated good for 1,000,000 feet a day. This is the sixth gasser in the pool, all of which gauge between 1,000,000 and 2,000,000 feet a day. In spite of possibilities in this township, and in Richland Township, where several fiar producers have been completed, no new drilling is noted on account of existing conditions.

From other sections of the lower eastern fields, completions were limited. Seven additional wells were completed of which three were above the average and rated fair. Two producers and five gas wells completed the totals.

SOUTHEAST OHIO

One other completion was recorded in Southeast Ohio during the week, the test of Emerald Petroleum Co. and others on the Mossholder heirs farm in Section 14, Fallsbury Township, Licking County. It was completed in the Clinton sand at a depth of 3,033 feet and produced 72 bbls. the first day after shot. It is rated as a steady 10-bbl. pumper.

Drilling in Ohio

Little improvement is noted in the number of operations in Southeast Ohio. About 28 wells are drilling and the number of rigs for new work is down to seven. In Muskingum County, the Wittmer Oil & Gas Properties has a test drilling on the Sarah Miller farm, Section 11, Washington Township. It has reached 2,700 feet.

In Perry County the Hopewell Fuel Gas Co. has started drilling on the C. M. Foraker farm in Section 5, Bearfield Township. In Jackson Township, W. G. Perrigo & Co. have a rig standing for No. 6 on the J. A. and W. E. Donnelly farm, Section 1.

In Coshocton County the Preston Oil Co. is down 2,600 feet in No. 3 on the F. H. Donaker farm, Section 17, Perry Township. In the same section, the Murphy Petroleum Co. and others have a second test drilling on the Ward A. Little farm which has reached 2,300 feet. Again in this section, Kundtz Hulse, Inc., and others have a test drilling on the C. M. Dawson farm, which has reached 800 feet. In Clark Township, Lot 8, the Mehowa Oil & Gas Co. has made a location on the Sol Haun farm.

In Holmes County the Mehowa Oil & Gas Co. is drilling on the B. J. Ulrick farm, Section 25, Hardy Township. It is now 2,500 feet deep. In Licking County G. F. Early and others are down 300 feet on the David B. Hall farm, Lot 3, Newton Township. It is scheduled for the Berea sand. The Edward H. Everett Co. has a rig ready for No. 5 on the Felix Claypool farm, Section 7, Hanover Township.

In Fairfield County, the Blum Oil & Gas Co. is nearing the sand in its No. 3 on the J. J. McCandlish farm, Section 26, Rush Creek Township. In Knox County, H. E. Perkins and the Upham Gas Co. are drilling on the Ross Hunter farm, Section 21, Union Township. It has passed the 2,100-foot level. In Medina County work is at a standstill; one well is drilling and shut down incompleted. It is No. 5 of F. E. Barnhard and others on the W. P. White farm, Lot 17, Harrisville Township. Meigs County is in the same condition, one well shut down, that of James Simpson on the Rena Ross farm, in Sutton Township, at a depth of 510 feet.

In Monroe Township, the Southerland Oil & Gas Co. is drilling on the W. A. Quigley farm in Section 9, Franklin Township. In Noble County, a local Byesville syndicate has a test drilling on the Larrick farm in Buffalo Township, which is 1,200 feet deep. In Section 14, Olive Township, W. M. Patten and others have reached 650 feet in No. 11 on the Austin Cunningham farm.

In Washington County the Swingle Brothers have a rig standing for No. 4 on the Junius Greenwood farm in Section 28, Newport Township. In Independence Township, William Schneider is drilling No. 6 on his own property in Section 6, and is down 800 feet. In Fearing Township, T. C. Robinson Brothers have reached 1,300 feet on the William Templeton farm.

WEST VIRGINIA

Completions in West Virginia were void of producers, all being gas wells. Two new wells in Cabell County are the equal of any in that recently prolific section. In Guyandotte district, the Huffman Oil & Gas Co. completed a test on the Darnell and Nelson lease in the sand at a depth of 2,304 feet. It started off gauging in excess of 3,000,000 feet a day. In McComas district, extending this pool, D. R. Campbell and others completed a test on the Gilbert Holton farm which reached the Berea at a depth of 1,825 feet. It is a gas well of similar size, over 3,000,000 feet a day.

In Wetzel County, the Manufacturers Light & Heat completed a fair gas well in its No. 3,506, No. 3 on the Caleb B. Freeland farm in Church district. It is fairly deep, 3,706 feet, the Bayard sand.

In Calhoun County, the test of the McCall Drilling Co. on the William Poling farm in Sherman district is a very light gas well at a depth of 1,900 feet, the Injun sand. In Roane County the test of the Reedy Oil & Gas Co. on the M. L. Santee farm in Curtis district is showing better, gauging over 900,000 feet a day.

In Marion County the Hope Natural Gas Co. has extinguished the fire in its well on the Nancy L. Murray farm in Mannigton district, which was being drilled deeper and which encountered a flow of over 3,000,000 feet a day. The new rig is being built.

In Wetzel County the test of the Shimwell Oil & Gas Co. on the W. J. Price farm in Grant district has not been put to pumping. No additional oil has been bailed from it and there is 800 feet of fluid standing in the hole.

Drilling in West Virginia

In Ritchie County Herbert Flanigan has a rig standing on the Lucy Jenkins farm in Grant district. In Murphy district, the Bode-Stoffle Drilling Co. has

reached 1,500 feet on the John Coyle farm. In Clay district, the Lucky Strike Oil Co. is down 830 feet in a second test on the L. E. Robinson farm.

In the active Cabell County, C. C. Wolfe and others are getting ready to start No. 5 on the Ben Lomond Land Co. tract in Guyandotte district. The Cisco Drilling Co. will soon be in the sand with its test on the Ed Bull farm. Swanson and Hatchard have reached 1,700 feet on the F. M. McCoach & Co. lease.

In Boone County the Cambridge Gas Co. is cleaning out after shot in its No. 4 on the C. C. Lewis heirs farm in Scott district. The hole was shot at 2,600 feet. In Wayne County the test of the Burgess Oil & Gas Co. on the Robert Vaughn farm, Union district, is down 1,835 feet.

In Roane County, the Tawney Oil & Gas Co. is down 1,025 feet on the D. L. Tawney farm in Geary district. In the same district, the Big Sandy Oil & Gas Co. is drilling at 850 feet in its second test on the T. F. Smith farm. In Washington district, Jackson County, drilling has been resumed in the H. H. Sheppard test on the T. C. Burdette farm, and the depth now is 875 feet.

In DeKalb district, Gilmer County, in spite of the failures, Poling and McDonald and others are going ahead with their test on the Miles Snyder farm. Drilling has been resumed and the depth is 1,475 feet. No other wells have been started in this county.

SOUTHWEST PENNSYLVANIA

One producer and one gas well were completed in Southwest Pennsylvania. In Penn Township, Butler County, Charles Conabe & Co. completed a test on the Charles Maharg farm in the Third sand at a depth of 1,700 feet. It started off at about 5 bbls. a day.

In Richhill Township, Greene County, Wasmuth and Callahan completed a test on the F. W. Baldwin farm at a depth of 1,291 feet, the second Salt sand. It is a gas well slightly in excess of 200,000 feet a day.

A few additional wells are now drilling in the area close to the pool which remains undeveloped in Amwell Township, Washington County. There the Union Gasoline & Oil Co. is getting close to the sand in its test on the Paul Lewis farm. The Carnegie Natural Gas Co. has started a test on the C. L. Morton farm and is down 760 feet. The Wise Oil & Gas Co. is ready with a rig on the John Roach farm. Lawrence & Co. have reached a depth of 1,000 feet on the McDonald heirs farm. In South Franklin Township, a probable Dunkard sand district, Baldwin and Gaskell are making fair progress on the R. G. Clark farm, and are down 800 feet.

Wildcats

In Southeast Ohio no progress was made in the Benedum & Trees test on the E. E. Knowlton farm in Section 10, Independence Township, Washington County, the test being shut down waiting on a new cable. The depth remains 7,005 feet.

In Virginia drilling has been resumed in the test of Brehn & Co. on the J. M. Arnold farm in Washington County. The test is now reported at 2,630 feet. In Russell County, Benedum & Trees are drilling at about 4,800 feet on the Clinchfield Coal Co. tract. In Wise County their test on the I. Kaufman farm is down waiting on the cement to set in straightening a crooked hole.

Central West Fields

(Continued from Preceding Page)

ing on the W. J. Neal farm, SW Section 9, Benton Township.

Vanderburg County

In the extreme southwestern part of Indiana, in Vanderburg County, more drilling activity is shown than in any other county in the state, the oil being found at depths around 950 feet. This is practically a new producing area for the state, the bulk of the work being done in Center Township. J. S. Young, Jr., drilled in a 15-bbl. initial producer on the Iglehart Milling Co.'s property, SW Section 33. C. M. Root's No. 1 on the E. A. Swope farm, SW Section 29, same township, produced 10 bbls. John R. Knapp and others' No. 1 on the Oscar Euler farm, in SE Section 29, was dry at 953 feet, as was Maxwell Petroleum Corp.'s No. 1 on the Helen L. Lubring farm, NW Section 28, same township. Same company is drilling No. 3 on the George Hornby farm, SW Section 33, also No. 1 on the Young farm, NW Section 28, Center Township. In Scott Township, same county, C. J. Weideman is drilling on the W. W. Sipp farm, SW Section 19. In Center Township, same county, John L. Drake and others are drilling Nos. 3 and 4 on the John and Mary Effinger farm, NW Section 33, and Ellis and Young are drilling on the Evansville Airport grounds, SW Section 33, same township.

In the extreme western part of Indiana, J. C. Christensen is drilling on his own farm, 5 miles northwest of Medarysville, in Pulaski County. This area is where the heavy lubricating oil is found at a very shallow depth, the same kind of product that made Jasper County famous many years ago when an English syndicate drilled in about 500 shallow holes, and the oil in these old wells is used by the natives for lubricant in their automobiles.

The latest completion of note in the Indiana Field was the bringing in of a gas well with 9,000,000 feet by the Knox Engineering Co. in the northwest corner of the G. C. Sampley farm, SW Section 23, Columbia Township, Gibson County, from 1,432-35 feet and one of the largest wells struck in Indiana for some time.

KENTUCKY

The outstanding feature of the Kentucky Fields was the completion by Reed Hughes and others on the Owen farm, on Trace Branch Creek, in the old-time Barbourville area of Knox County, the estimated flow being reported at around 700 bbls. initial before being capped. This old field was practically abandoned 30 years ago, and until a regular test is made its actual value will not be known, as the oil was found at a very shallow depth of 400 feet. Whether the test will prove as productive as reported and should it even produce 100 or more barrels, when connected up, it will bring about much development in the immediate vicinity. The surface in Knox County is very similar to that in Cumberland County, where the first test for oil in the United States was made on March 11, 1829, on the banks of Little Renicks Creek, 3 miles north of Burksville and within a few feet of the new road built connecting Burksville and Columbia. It was drilled by Emmerson & Stockton for salt, but oil was found and it has since been known as the old American well. A letter written March 15, 1829, by Thomas Ellison, of Burksville, described in detail the well and how it flowed. The oil flowed down the Cumberland River and covered it from bank to bank for miles, and was set on fire the day he wrote the letter, the sheet of fire stretching for miles down the river and causing consternation among the inhabitants as many believed Judgment Day had come and that the world was burning up. Oil from this well was later bottled and sold as a remedy for many ailments, some of the bottles being sent to England. A few of the original bottles are to be found among the descendants of the first settlers of Cumberland County. Some, it is said, still are sealed, full of the original oil as it came from the early well.

Neither Knox nor Cumberland Counties has been thoroughly tested and new pools may be found in the scramble for production. In Cumberland County the producing sands are many, the best known being First and Second Sunnybrook, Trenton and Knox Dolomite, all of Ordovician age. The Corniferous Niagara and Clinton formations are absent in this field though the Devonian (Black) shale overlying them is found at the proper horizon.

Cumberland County has two major structural features, the Cincinnati arch and the Meshack uplift. The Cincinnati arch crosses the county in a northeast and southwest trend, passing through Meredith Creek and Turkey Bend in Monroe County and Judio, Water View and Renox Creek in Cumberland County. The Meshack uplift (recently discovered and worked by the Kentucky Geological Survey) has an east and west trend running from Tompkinville, through Little Sulphur Creek, Meshack, Judio, Hood Branch and Judio Bow Hollow near its head. Crossed by these two major folds Cumberland County has the most pronounced structure of any oil field in the state. In general the structures are domes though many plunging anticlines are evident.

Field Pickups

The only completion reported from western Kentucky was Petroleum Exploration Co.'s No. 5, 500 feet from the north line and 1,250 feet from the east line of the C. M. Farmer's farm, 2 miles southeast of Whiteville, in Ohio County, which was a dry hole at 560 feet.

For December the oil production for Daviess County was 43,816.40 bbls. for which the producers were paid $40,696.30. The state received $407 in taxes. Producers Pipe Line Co. handled 20,614.20 bbls. of crude through its pipe, while the Ohio Oil Co. handled 23,201.90 bbls.

Total runs from wells served by the Illinois Pipe Line Co. in western Kentucky for the month of January totaled 107,037.61 bbls.

A report from John E. Lewis, chairman of the State Tax Commission of Kentucky, in regard to production of crude oil in Henderson County during December showed a production of 5,904.88 bbls., valued at $5,552.09.

ILLINOIS

Only one completion was reported from the Illinois Field, a test drilled by W. C. McBridge, Inc., on the S. H. Binkett farm, NW Section 2, Montgomery Township, Crawford County, which was a light gas well at 890 feet. Warner Brothers are shut down on the Grant Jessup farm, Section 23, Honey Creek Township, and Price and Weger are still drilling on the H. Standfield farm, Section 36, Prairie Creek Township, same county.

In Lawrence County the Ohio Oil Co. abandoned No. 1 on the Hugh Garvey farm, SW Section 4, Dennison Township.

J. E. Hood is still drilling at his No. 8 on the H. Briscoe No. 2 farm, Section 32, Parker Township, Clark County, and Martha Knierin is drilling at No. 8 on the N. B. Lee farm, same section, while in Casey Township Tilford & Morrow are still shut down in their test on the W. B. Johnson farm, Section 26.

Richard Eke and others are idle at their test on the H. Klair farm, Section 7, Waid Township, Jasper County.

Dry Hole Only Completion in Michigan; Gratiot County Test Has Oil Showing

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., Feb. 13. Only one completion was reported from the Central Michigan Field, Ralph W. Melhorn's test, 350 feet from the south line and 970 feet from the east line of the Robert C. Kerr farm, SE NW Section 2, Elba Township, Gratiot County, which was dry at 732 feet. This test is about 2 miles from the Elba gas field. The test being made by the Shell Petroleum Corp., 660 feet from the south and east lines of the J. Covell farm, C SE NW Section 15, Saville Township, same county, made a showing of oil in the bailings at a depth of 790 feet, which stirred interest in the last of the four recent wells to be drilled in the wildcat area of Gratiot County. The other three have been abandoned or indefinitely suspended. The oil comes from a stray formation and not any of the defined producing sands. Drilling is being continued on the Covell test which at last report was at 1,100 feet.

The Smith Petroleum Co. has resumed drilling on the Richard Johns No. 1, in W half SW Section 21, Birch Run Township, Saginaw County, which was completed late in December after which it made a production of 10 bbls. from the Berea sand, and probably will be deepened to the Dundee formation.

Pure Oil Co. is drilling No. 5-C, 2,310 feet from the south line and 990 feet from the west line of the Glen M. Reem farm, NW SE Section 15, Greendale Township, Midland County; also No. 1, 1,650 feet from the north line and 990 feet from the east line of the H. Woern farm, SE NE Section 15, same township.

Columbia Oil & Gas Co. is drilling No. 1, 330 feet from the north and east lines of the William Travers farm, NE NE SE Section 32, Greendale Township, Midland County. Same company secured permit for No. 2, 330 feet from the north line and 990 feet from the east line of the Gilson-Fales farm, NW NE SE Section 11, Greendale Township; for No. 3, 330 feet from the south and east lines of the William H. Hill farm, SE SW NE Section 16, same township. Permit was also issued for the Herzel-Leland Development Co.'s No. 2, 330 feet from the north and west lines of the Tope-Talbot farm, NW SE SW Section 11, Greendale Township, Midland County.

In Greendale Township, Midland County, Talbot Oil Co. is due for completion in a few days of its No. 3-B, 330 feet from the south line and 990 feet from the west line of the State of Michigan land, SW SE SE Section 11, Jones & Woodruff are drilling in the Dundee formation in their No. 3, 990 feet from the south and east lines of the Jones-Woodruff farm, NW SE NW Section 13, same township. Another well that is about ready for completion is Michigan & Pacific Oil & Gas Co.'s No. 2, 990 feet from the north line and 330 feet from the east line of the James H. Otway, Jr., farm, NE SW Section 22, Porter Township, Midland County.

In Isabella County the Wittmer Oil & Gas Co.'s No. 2, 450 feet from the north line and 1,120 feet from the east line of the Sarah Cashen farm, NW NE SW Section 30, Denver Township, is about ready to drill in.

Field Pickups

During 1932 the Central Michigan oil field produced approximately 20,000 bbls. of oil a day or 6,200,000 bbls. for the 12 months, according to the geological survey division of the State Department of Conservation. The division says the income from the field to producers and royalty owners amounted by $4,500,000. The price of oil averaged approximately 75 cents a barrel during the year. The present quotation is 95 cents a barrel. Since the opening of the Mount Pleasant Field in 1928, the report adds, 350 oil wells have been drilled. In addition 27 dry gas wells have been drilled, resulting in the location of three distinct gas pools which have an aggregate open flow of about 100,000,000 feet a day.

Cost, as always, is the item of main interest, and attention is being centered on the paraffin condition. Extensive tests have been made with various solvents with various results. In some instances the paraffin has been eliminated entirely, and more complete tests are now in progress. Use of the solvents in conjunction with the installation of heaters on various headlines has eliminated a great deal of former trouble from this source. These heaters also serve to aid in settling out the paraffin and bottom sediments more rapidly. The treating plants are functioning satisfactorily and last month's report showed 21,980 bbls. of oil treated with use of only 63½ gallons of compound. The rig building crew has been temporarily increased due to building the new rigs for the last six wells.

Watching Important Extension Tests at Conroe; Harris and Montgomery Counties Get Play

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Feb. 13.—Interest on the Gulf Coast the past week was divided between Conroe, where two important key extension tests have reached depths to be watched; the Huffsmith-Tomball district of northern Harris and southern Montgomery Counties, which continued the "hot" spot on the coast in lease and royalty trading and where active development is in the making; the Bellville area of Austin County, which also has been figuring conspicuously in leasing and where wildcat development is being carried on; the old Hockley Dome, northern Harris County, which, judging from showings encountered in a test there during the week, seems due for its first important production. In addition substantial extensions were made in several of the newer fields.

Important Tests at Conroe

The two important tests at Conroe are M. J. Munn's No. 1 South Texas Development Co., Lot 114, Block 1, Clark Beach Survey, over a mile east of the present field, and Strake Petroleum, Inc.'s No. 1 Elizabeth Moody, C. B. Stewart Survey, 2 miles west of production. As eastward and westward are the only two general directions in which the limits of production have not been fairly well defined, the two tests mentioned will have much to do with determining further extensions of the field.

The Munn well at present is at the most critical depth and at latest report was drilling in shale below 5,025 feet. It was reported that slight showings were being encountered. These were not indicative of importance but if there is anything in the well it should come to light within the next 200 to 250 feet. For several weeks there has been some fairly active trading of small leases and royalties in that area, and between it and the field.

Little definite information is available concerning the Strake well, which now is "tight." At the close of the week it was coring for the Hockleyensis marker with the hole down approximately 4,150 to 4,200 feet or slightly below that. If the Hockley is topped around that depth, the test has a fair chance of making a well. A large part of the acreage between this well and the field is owned by Strake Petroleum, Inc.

Hundred Tests Drilling

With approximately 20 new wells brought in at Conroe the past week there now are 200 producers in the field and with the increasing development and present rate of completions it looks as though early estimates of 500 wells by the end of 1933 were ultra conservative. The rush of operators, both large and small companies, to prove up the field has resulted in a drilling program including not only offsets and obligated tests but also "inside" locations, and now there are approximately 100 tests actually drilling, not including derricks up and locations.

Production of the field is being extended on the east side of the field by Feltex Oil Co. and Kirby Petroleum Co.'s No. 1 Bertrand, located in the G. W. Wagers Survey and south of a well recently completed by South Gulf Oil Corp. which extended the field a mile east. The Feltex well late in the week had not been completed but was in the sand coring a little deeper after drilling out plug at 5,021 feet. It is showing for a well.

The production allowable for the field still is 116 bbls. for wells on 20-acre units, this allowable being in force for a 10-day period beginning February 4. Some interest probably will be shown in the proration hearing for that field called by the railroad commission to be held at Houston, Tuesday, February 14. At that time not only will a new maximum allowable for the field be considered but also a new plan of allotment.

Pipe Line Projects

Laying of Tide Water Oil Co.'s new 10-inch line from Conroe to Humble, where it will tie into the Texas Pipe Line Co.'s system to Port Arthur, is nearing completion and the line should be running oil within another 10 days, relieving any congestion in the present two lines. Announcement of Sun Pipe Line Co.'s proposed new line from the field still is held up pending completion of the trade by Sun Oil Co. for purchase of the properties of Albert Plummer and D. B. McDaniel and which hinges on the acceptance of titles. A fifth line for the field has been rumored but nothing definite has been made known. It is reported this line will be laid by Golding & Murchison. Another outlet for gas production of Conroe is being provided with the laying of an 8-inch line from the field to Houston by the Moran Co., a distance of approximately 35 miles, to serve industrial consumers. This company already has a small line to Conroe where it distributes gas, and also has a field distribution system for supplying fuel for development operations.

Harris and Montgomery

No abatement of interest in the Huffsmith-Tomball district of northern Harris and southern Montgomery Counties. In fact, the play for leases and royalties showed additional impetus spreading over an area 20 square miles or more with prices of $150 an acre actually being paid in cash for some leases. Less than two months ago any of this acreage could have been bought for $2.50 to $5 an acre.

Mills Bennett Production Co.'s No. 1 Klepple, March Survey, approximately 3 miles southwest of the Indian Hill wildcat, late in the week was reported in shale at 4,589 feet. At that depth it still had not picked up the Hockleyensis but was expected to do so shortly. Although showing a little lower than the Indian Hill test, considering the downdip location it is believed to be running about the same. Mills Bennett Production Co. has approximately 3,000 acres in the district, some of which originally was a part of the Indian Hill block. That company also assisted the Indian Hill Oil Co. in carrying its test from the 5,100-foot horizon to a total depth below 6,200 feet where it was abandoned.

In view of its relationship to the Huffsmith area, a wildcat being drilled by R. L. Sprinkle on the Rohlfs tract in the Prosens Survey of southern Montgomery County, is being watched prettly closely. If this test runs normal, preferably low, the existence of a structural condition for Huffsmith will be virtually proved. This test is located on the extreme north of what is designated as the Huffsmith area, being 5 or 6 miles from the Indian Hill and Mills Bennett tests. So far no closure has been worked out in that direction and a low well is needed there to make Huffsmith look favorable. The Sprinkle well lacks quite a bit of being down to the Hockleyensis, the first marker that can be relied upon for correlation.

Hockley Dome

A little sensation has been created at Hockley, northwestern Harris County, where John Deering has a test which looks as though it will make a good well. This test, his No. 2 Warren, has a sand at 2,420-26 feet and is to run casing. In a drill stem test oil rose 1,800 feet in the hole. Location of the well is on the northwest side of the dome in the T. Snell Survey where this operator has approximately 600 acres.

Hockley is one of the oldest known salt domes on the Gulf Coast, being proved in 1906. An extensive amount of drilling has been done and showings have been encountered and a few small wells have been completed but no commercial production has been developed. Recently a group of individuals took over an old abandoned well, worked it over, and made a small producer but not one of particular importance. The dome, however, is one of the largest and despite the fact that many tests have been drilled, both shallow and deep and located on and around the dome, there still is considerable unprospected acreage. The dome itself is very shallow coming to within a few hundred feet of the surface.

Austin County

Renewed interest has been centered on Austin County, particularly in the Bellville district, with the starting up of another wildcat, that of Cranfill-Reynolds Co.'s No. 1 J. B. Lewis, 3,150 feet from the north line and 330 feet from the west line of the J. C. Hacienda Survey. This area, which has been experiencing an active leasing play for some time, is believed to be on one of those numerous so-called "noses" expected to be found along the old Hockley shore line. Two other wildcats have been drilled in that general district but several miles to the west and south. These are Bunte and associates' No. 1 Dittert, M. N. Allen Survey, abandoned at 4,850 feet, and Sun Oil Co.'s No. 1 Theuman, Juan DeLeon Survey, abandoned at 4,734 feet. Both of these tests ran normal.

Manvel Field

The Texas Company extended Miocene sand production at its Manvel Field, Brazoria County, 2,000 feet to the southwest by the completion of its No. 4 Belcher flowing 82 bbls. an hour at a total depth of 3,890 feet. However, the well later went dead and now is being worked on. The trouble is believed mechanical rather than the fault of the sand. This is the fifth well completed at Manvel, two being north of the discovery well, this new one southwest, and the other 1,500 feet southeast of the discovery well. The latter, which, along with the discovery well, was completed on a deep Oligocene sand, failed to hold up and was abandoned shortly after completion.

Cameron Meadows

Magnolia Petroleum Co. had a similar experience the past week at its Cameron Meadows Field, southern Cameron Parish, when this company's third well, completed last Wednesday, went dead Saturday. The well had been brought in flowing 385 bbls. of pipe line oil in the first 24 hours through a one-quarter inch choke from a sand at 5,273 feet. Operators at latest report were preparing to pull screen to work the well over. This well is 500 feet due south of No. 2 Cameron Meadows completed in October, 1931, flowing 1,000 bbls. daily from the same sand at 5,270 feet. The discovery well, the northernmost producer, being 500 feet north of No. 2, was completed in January, 1930, as a small well in the 3,850-foot sand.

East Hackberry

Union Sulphur Co. has junked and abandoned its No. 2 Gulf Land-Pure Lease, northwest flank of the East Hackberry Dome, Cameron Parish, Louisiana, after failure to pull stuck drill pipe. Bottom of the hole was in sand showing oil at 8,315-34 feet and the test was the second to drill to that sand, the first, No. 1 Gulf Land-Pure Lease, having met a similar fate to the present test. The sand gives promise of opening important new production, the deepest on the coast. Three other wells have been drilled on that side of the dome by this company but these were completed in a 6,000-foot sand.

Calcasieu Parish

The above company has completed another good well on its Sulphur Dome, Calcasieu Parish, in No. 776 fee, which flowed initially at the rate of 1,200 bbls. daily through a one-half inch choke from sand at 5,022 feet.

Rabbs Ridge

Two additional completions were reported in the Rabbs Ridge Field, Fort Bend County, these being Gulf Production Co.'s No. 1-A Mary Gubbels, north extension district, flowing 60 bbls. per hour, three-eighths inch choke, 5,323 feet, and Humble Oil & Refining Co. and Gulf Production Co.'s joint No. 11-B Lock-

(Continued on Page 78)

Gulf Coast Fields and Wildcats

Week Ending February 11

RACCOON BEND—AUSTIN COUNTY

Company, farm and location—	Remarks:
Humble O. & R. Co.'s No. 9-A Walton, W. C. White Sur., 150 ft. SW of N cor. of 50-ac. tract and 181 ft. SE parallel to NE line	Drlg. sandy lime 1,039 ft.
Humble O. & R. Co.'s No. 11 Woodley, Wm. Harvey Sur., 412 ft. out of S cor. of tract	Location.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 10 Wisdom, A. Darst Sur., 440 ft. from NW line, 170 ft. from SW line of tract	Heaving shale 3,978 ft.
A. W. Speed's No. 1 D. F. Bryan, A. Darst Sur., 105 ft. from N line, 65 ft. from W line of lease	S.D. 1,051 ft.
Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N 45 deg. E of SW cor. of Blk. 28, Masterson Subd., and 140 ft. S 45 deg. E of Elmire Bryan tract in A. Darst Sur.	No report.
Sinclair Prairie Oil Co.'s No. 19 Masterson (W.O.), A. Darst Sur.	Pulling screen to W.O. 3,206 ft.
H. Wisdom's No. 1 Wisdom, 50 ft. from SE line, 75 ft. from SW line of Blk. 5, Lot A, A. Darst Sur.	S.D. 1,045 ft.

Hobbs Pool Extended East by 1,490-Bbl. Well; Ramsey Well in Colorado Made Into Gasser

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Feb. 13.—Hobbs allowable outlet for the first half of February remained practically unchanged at 30,303 bbls. daily. Potential of the field as of February 1 was 1,204,247 bbls. Stanolind Oil & Gas Co.'s No. 26 Turner extended the proven area one-third of a mile to the southeastern part of the field and gauged 1,490 bbls. in 24 hours. The Humble Oil & Refining Co.'s No. 3-B Bowers, upon being regauged, made 12,150 bbls. One location was reported in the Amerada Petroleum Corp.'s No. 3 Hardin. One new operation was started on the Stoney Butte Dome in San Juan County.

In Colorado, the Ramsey well in the Buckingham district, was completed as a gasser and shut in. Manning & Terry's No. 1 Niles, in the Greasewood Pool, is being abandoned. Three new operations are being started in Boulder County. A test to the Pennsylvanian is to be drilled in Las Animas County.

In Wyoming, the Ohio Oil Co.'s No. 1 Kanawha, Allen Lake Dome in Carbon County, was uncommercial in the Muddy and is drilling towards the Dakota. A shallow test to be drilled in Albany County is ready to spud. Leo B. Murphy's test at North Platte, in Natrona County, had water in the Dakota and will go on to the Lakota.

In Montana, Dry Creek oeprations were all idle. Several average producers are being completed in the Cut Bank Field, none of which is outstanding.

NEW MEXICO

Lea County

The 24-hour potential rating of the Hobbs Pool was increased on February 1 to 1,204,247 bbls., an increase of 25,641 bbls. over January 16, due to recent completions. The allowable outlet for the first half of February is 30,303 bbls. daily, practically the same as in the last half of January. Pipe line commitments for the period show no important change. Total runs in January were 794,796 bbls., bringing the runs since proration went into effect up to 29,366,456 bbls.

The Stanolind Oil & Gas Co.'s No. 26 Turner, C SE SW Section 34-18-38, an outside well in the Hobbs townsite in the extreme southeastern part of the pool and one-third of a mile to the east of the nearest producer, gauged 1,490 bbls. of oil and 1,100,000 feet of gas through the 2½-inch tubing. Total depth is 4,189 feet and the tubing was run to 4,168 feet. The showing in this well indicates there are one or two more locations to the east which may be productive before the edge is reached.

The Humble Oil & Refining Co.'s No. 3-B Bowers, SW SE SE Section 20-18-38, an outside well on the northeastern side of the pool, reported completed and waiting for proration test last week, gauged 4,957 bbls. of oil and 3,252,000 feet of gas through the tubing and 12,150 bbls. of oil and 9,400,000 feet of gas open. This was an increase over the previous gauging.

One new location is the Amerada Petroleum Corp.'s No. 3 Hardin, NW cor. SW Section 18-18-38, an offset on the south to the Humble's No. 1 Hardin. Cellar and pits have been completed. The Skelly Oil Co.'s No. 1 State, SW SW Section 17-18-38, is rigging up rotary, and the Humble Oil & Refining Co.'s No. 1 Hardin, SW cor. NW Section 18-18-38, is building rig. The Tidal Oil Co.'s No. 4 Hardin, SW NE NE Section 19-18-38, is bottomed at 4,008 feet in lime and running the 7-inch. The Continental Oil Co.'s No. 1-B State-25, NE cor. NW Section 25-18-37, spudded January 29 and is drilling at 60 feet.

In the Jal area, the Continental Oil Co.'s No. 1-B Sholes-13, C SW NW Section 13-25-36, cored lime from 3,344-70 feet. These are indications that this well will open a deeper oil pay. Big gas in several horizons was mudded off.

In the Eunice area, the Atlantic Oil Producing Co.'s No. 1-B State, C NW SE Section 8-21-36, is rigging up rotary.

Eddy County

Flynn, Welch & Yates' No. 65 State, NE SE SE Section 30-18-28, Artesia area, is drilling at 1,610 feet in lime and gypsum. The Leonard-Barnsdall Oil Corp.'s No. 1 Dodd, SW SE SW Section 22-17-29, Jackson area, is drilling at 2,094 feet in lime, and R. Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek, is drilling at 1,372 feet in black lime.

De Baca County

The Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s-27, Buffalo Creek, is shut down at 5,685 feet in lime for engine repairs.

Bernalillo County

Norins Realty Co., Inc.'s No. 1 Pajarito grant, NW cor. NE Section 22-9n-1e, is shut down at 3,607 feet to rig up rotary. It changed over to cable tools at 3,356 feet. It had an oil show in sand at 3,322-39 feet, followed by water at 3,339-50 feet.

Guadalupe County

The Anton Chico Development Co., Ltd.'s No. 1 Anton Chico grant, NE cor. SW Section 20-9n-17, is bottomed in red sandy shale at 1,260 feet and underreaming the 12½-inch.

Valencia County

The Western Natural Resources Corp., Inc.'s No. 2 San Clement, SW cor. NE Section 5-6n-1e, is drilling at 3,916 feet in shale. It recently changed over to cable tools.

San Juan County

R. R. Burke and others' No. 2 Government, C NW SW Section 18-21-13, Stoney Butte, is a location. Same interests drilled in the NW SE SE Section 36-22n-14w, in 1931 and completed a well at 816 feet, after plugging back from 819 feet, which was estimated at 25 bbls. Mr. Burke was president of the Reserve Oil Co., which drilled this well.

COLORADO

Weld County

W. R. Ramsey's No. 1 St. Anthony, SW NE SE Section 15-7n-59, Buckingham district, which renewed interest in northeastern Colorado two months ago when it opened up a flow of gas in the Muddy sand, followed by a good show of oil in the top of the Dakota, was listed as a completion the past week after plugging back. It cut the Muddy sand at 6,680-6,700 feet and gauged 6,000,000 feet per day with a rock pressure of 1,800 pounds. This gas was killed to test the Dakota. It found saturation in the top of the Dakota at 6,760-65 feet, which made 40 bbls. of oil the first 24 hours and 20 bbls. in the second period. However, it went into a soft sand at 6,768-74 feet and water increased to 20 bbls. per hour. The hole was then plugged back to the Muddy and completed as a gas well. It is expected that the company will do some additional drilling in that area the coming spring. The gas in the discovery well was run through a drip and averaged 2½ gallons per 1,000 feet. Plans for installing a gasoline plant are under consideration. The well is at present shut in.

Five miles to the north of the Ramsey well, the Continental Oil Co. and others' No. 1 Anthes, C NE NE Section 24-8n-59, resumed the past week under the agreement with the Tulsa-Fort Morgan Petroleum Corp., but did very little work before it had to suspend on account of the weather. Total depth is 3,318 feet. The 10-inch was lowered to 3,135 feet when operations were suspended. It is planned to lower this string to bottom and cement, by which time rigging up of rotary will be completed.

In the Greasewood area, Manning & Terry's No. 1 Niles, C SE NE Section 13-6n-61, two-thirds of a mile to the northeast of the Continental's No. 1 Briggs, the nearest producer, is preparing to abandon at a total depth of 6,721 feet. It stopped while still in the Dakota sand from which water rose 4,400 feet in the hole.

In the Brighton-Lupton district, the Retter Oil Co.'s No. 1 Cronin, NW cor. SW Section 24-1n-66, lost the tools at 795 feet and the crew was switched back to No. 2 Cronin, 320 feet to the south, where tools were recovered and drilling resumed at 742 feet.

Washington County

The Akron Oil & Development Co.'s No. 1 Gilcrest, SW SE SW Section 22-3n-53, Fremont Buttes area, spudded in a 24-inch hole and shut down.

Lincoln County

The Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW Section 36-14s-57, Hugo area, which has been standing at a total depth of 3,465 feet with 2,500 feet of water from the Dakota, probably will be abandoned as the rig was blown down in a windstorm and the hole had been reduced with a string of 4¾-inch.

Boulder County

The Consolidated Smelting & Metals Co. is starting three operations in Boulder County, locations of which are not yet available. One of these, located 3 miles east and a little south of Lyons, has spudded. Another is a location on the property of the Methodist Church in the town of Lyons, and the third is building rig east of Haystack Mountain, near Niwot.

Fremont County

S. W. Pressey's No. 1 Mojada, NE NW NW Section 22-19-69, in the town of Florence, is shut down at 2,665 feet and probably will be abandoned.

Larimer County

The Poudre River Oil Co.'s No. 1 Smith, NW SE NW Section 34-8n-69, northwest of Fort Collins, shut off a show of 250,000 feet (estimated), of gas with the 8¼-inch at 2,005 feet and drilled to 2,095 feet when operations temporarily were suspended on account of the weather. The Consolidated Drilling Co.'s No. 1-A Maxwell, SE NE NE Section 25-8n-70, which has been standing at 90 feet, was abandoned. Hole in No. 1 was lost at 285 feet and rig skidded. Charles A. Culter and others' No. 1 Affolter, SE Section 4-4n-70, west Berthoud, is shut down at 2,700 feet.

Las Animas County

P. W. Harr's No. 1 Schneider, SE SW SE Section 10-33-63, Gray Creek, which reached contract depth at 2,010 feet, is reported to have contracted to carry the hole down as a test of the Pennsylvanian. It is bottomed in the Carlile.

Rio Blanco County

The California Co.'s No. 1 California-Raven, NW SE Section 30-2n-102, Rangely Dome, is coring at 7,008 feet. It lacks only 302 feet of being the deepest test drilled in Colorado.

WYOMING

Carbon County

The Ohio Oil Co.'s No. 1 Kanawha, SW NW NE Section 34-23-79, Allen Lake, which stopped to test a show of gas in the Muddy after cementing the 6⅝-inch at 1,334 feet, has resumed drilling and is making hole at 1,400 feet with the Dakota as the next objective. The Muddy contained 5 feet of saturated gas sand, but it was uncommercial.

Albany County

S. Marvin James & Co.'s No. 1 Riverside ranch, C SW SW Section 10-13-76, Riverside district, has a Fort Worth spudder on location and is ready to begin drilling as soon as weather conditions improve. George Day has the contract for a 2,000-foot hole. The first objective is a sand in the top of the Casper formation which is saturated and 30 feet thick at outcrops 5 miles to the south and on the west. An outcrop of this sand also is found on the east. This horizon is logged at 4,900 feet in the Rock Creek Field to the north, indicating a rise of 3,000 feet. The structure was geologized and location made by E. S. Shaw, formerly with the Midwest Refining Co., and checked by R. Claire Coffin. Three major companies offered to drill the structure, which is not very large in area, but very promising.

Platte County

T. R. Oberman's No. 1 Diamond ranch, NW SE Section 30-21-68, west of Chugwater, is drilling at 271 feet.

Fremont County

The Texas Company's No. 2 State-Ridgway, SE SW SW Section 36-34-95, Alkali Butte, is coring at 4,694 feet in gray shale and lime. It gauged 6,000,000 feet of gas at 4,571-91 feet from a sand in the Morrison.

Big Horn County

W. O. Taylor and others' No. 1 Hoskins, Lot 5, Section 25-56-97, Byron Dome, is trying to set the 20-inch at 52 feet.

Natrona County

Leo B. Murphy and others' No. 1, SE NW Section 29-33-80, North Platte, had a show of oil in the Muddy at 546 feet and topped the Dakota at 720 feet. The first 8 feet were dry. After going through a break, water came in. It is preparing to run the 8¼-inch to bottom at 826 feet and will carry to the top of the Lakota, which is believed to be near.

The Fargo-Western Oil Co. has contracted some of its Poison Spider produc-

tion to the White Eagle refinery at Casper and deliveries are expected to begin May 10.

Park County

The Oil Well Supply Co.'s store at Cody was destroyed by fire of unknown origin the past week. Damage is estimated at $30,000.

The Continental Oil Co.'s No. 1 Northern Pacific, SE SW NE Section 23-58-98, Frannic Dome, was preparing for a pumping test at a total depth of 3,344 feet when operations were suspended on account of the cold weather. It swabbed 220 bbls. in 12 hours.

MONTANA

Carbon County

All Ohio Oil Co. operations on Dry Creek were at a standstill on account of a water shortage. The Carbon Oil & Gas Co.'s No. 1 McMinn, NW SW SW Section 7-7s-22, is still shut down at 5,551 feet waiting for insurance adjustment on rig. The Reserve Oil Co.'s No. 1 Crofts, SE cor. SW Section 34-6s-21, is drilling at 750 feet with cable tools, but will change to rotary later on.

Glacier County

L. R. Hannah and others' No. 1 Britton-Mannix, SE SW SE Section 14-34-6w, in the Cut Bank Field, has replaced derrick pulled in while attempting to pull the 10-inch. On February 2 it flowed 100 bbls. an hour. It then settled down and swabbed 195 bbls. in 16 hours. The Darling sand was cut at 2,857-90 feet. R. C. Tarrant's No. 1 Britton, NE cor. SE Section 14-34-6w, an offset, is still cleaning out after a shot and swabbing. It is making 40 to 50 bbls. per day which is expected to be its capacity. The Dakota-Montana Oil Co.'s No. 1 Drumheller, SW SE NE Section 3-34-6w, set the 8¼-inch on top of the sand at 2,725 feet and drilled to 2,958 feet. Oil rose 500 feet in the pipe and there was a good show of gas. It has not yet been completed, but will be shot before being tested. R. C. Tarrant and Hays' No. 1 Haglund, Sr., SW cor. NW Section 13-34-6w, which is swabbing 12 bbls. per day from a total depth of 2,846 feet, will be given a shot in an effort to increase production. Tarrant's No. 1 Miller, C NE NE Section 24-34-6w, is shut down at 1,250 feet, and his No. 1 McLellan, C SE SW Section 7-34-5w, is fishing at 2,155 feet. B. E. Adams and others' No. 1 Britton, SE cor. NE Section 14-34-6w, succeeded in getting the 6⅝-inch past sidetracked tools at 2,795 feet and is now running the 4½-inch to 2,842 feet. It will be an early completion. E. J. Lesser and the Santa Rita Oil & Gas Co.'s No. 1 Jackson, C NW SW Section 25-34-6w, is drilling at 1,450 feet, and the Hannah-Porter Co.'s No. 1 Britton, NW NE NE Section 23-34-6w, is still shut down after spudding. W. M. Fulton and others' No. 1 Haggerty, NE cor. Section 16-34-6w, is rigged and ready to spud. The Alberta-Pacific Consolidated Oil Co.'s No. 1 Kiesel, NE cor. NW Section 11-34-6w, is drilling at 2,550 feet after running the 10-inch at 2,500 feet, and its No. 1 Matson, NE SE NW Section 14-34-6w, is fishing for tools at 2,770 feet. The Santa Rita Oil & Gas Co.'s No. 1 Tribal, C SW NE Section 15-35-6w, has rig completed and is ready to spud.

SOUTH DAKOTA

The Tri-State Oil & Refining Co.'s No. 1 Jamiason, SW SE SE Section 35-9n-3e, Butte County, is shut down at 160 feet (correct) waiting for casing. The Wy-Tex Oil & Gas Co.'s No. 2 Hamilton, SE cor. NE Section 38-8n-1e, is shut down at 1,530 feet. It had a show of oil, drowned out by water, in the top of a sand in the Minnelusa at 1,528 feet. The Minnelusa formation was topped at 1,190 feet. The 8¼-inch is being carried at 1,450 feet. The Chadron-Osage Oil Co.'s No. 1 Ganer, NE cor. SW Section 6-12s-6e, Fall River County, is shut down until spring at 3,200 feet. The Lakota was cut at 2,835-50 feet. The 10-inch is suspended at 2,500 feet.

New Tests in Northwest Saskatchewan Area; Unity Valley District Is to Be Explored

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Feb. 11.—An important new development is being started in northwestern Saskatchewan by Golden Ridge Gas & Oil Co., which recently secured leases in the Unity Valley area from the Unity Valley Oil Co. of Calgary. As a preliminary to a commercial test, a series of structure tests are being drilled for the Golden Ridge company by J. Rahrick of Unity. The first of these tests, on the M. Gathe farm, 2 miles north of Vera and 15 miles west of Unity, encountered a shallow gas sand at 248 feet, the gas, however, being accompanied by some water. Further structure tests will be put down and a commercial test probably will be drilled later in the year.

There have been several previous tests in the Unity Valley area, which is somewhat southeast of the Saskatchewan end of the Ribstone-Blackfoot structure. The latter structure extends across the interprovincial line into Alberta, and drilling on the Alberta end secured a fairly heavy crude production in four wells. No drilling has been done on the Saskatchewan end of the structure. The Unity Valley structure is possibly an extension of the Ribstone-Blackfoot structure, or a parallel fold of similar nature.

The area was first tested by the Unity Valley Oil Co., organized in 1928 by Calgary interests headed by R. H. Breckon. Unity Valley's No. 1, SE Section 28-41-24w3, was drilled to around 3,000 feet, and was reported at the time to have got some oil shows around 1,400 feet and a heavy gas flow a little deeper. Owing to drilling difficulties, the outfit was skidded and a new test started in the same section, and carried to 2,925 feet. Results in the second test were not so favorable, and a third test, drilled by Saskatoon interests, was not carried to sufficient depth. The area is thought to represent a good prospect for oil and gas, the nearest market for the latter being at Battleford and North Battleford, about 35 miles northeast, with Saskatoon, a much larger market, about 100 miles southwest of the prospective field.

It is understood that the Golden Ridge Gas & Oil Co. is drilling primarily for natural gas, and that it has planned a systemmatic development involving several carefully placed tests.

Red Coulee Field

The Alberta end of the international Red Coulee Field is showing a considerable revival of activity. Southern Alberta Exploration Co.'s No. 1, Section 2-1-16w4, cleaned out recently to 2,600 feet, is reported maintaining a pumping production of 20 to 22 bbls. a day. Union Drilling Co. of Calgary, which handled the work, has since cleaned out Scottish United Oil Co.'s No. 1, LSD 1, Section 18-1-16w4. This well was brought in a couple of years ago, but proved only a small producer, and has not been operated. It is now reported delivering an average of 5 bbls. a day.

A. Skov of High River, Alberta, is reported to have completed arrangements for deepening of the old Ko-Top Oils' No. 1-A, LSD 2, Section 2-1-17w4, on the west flank of the structure. Last year the D. A. McDonald syndicate deepened the hole to 2,100 feet, and it was later taken over by the Skov interests. Drilling is expected to resume early in the spring. Devonshire Oils' No. 1, LSD 3, Section 10-1-16w4, is reported drilling around 2,000 feet.

Lethbridge Area

On the Keho Lake structure, northwest of Lethbridge, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, has completed running of three-quarter inch sucker rods and has started pumping test. Liner was set in a stray sand of the Benton shale between 3,770 and 3,780 feet, after a shot. There was some oil in the hole, but the quantity had not been estimated.

Southeast of Lethbridge on the Twin River structure, Nordon-Roney's No. 2 Twin River, LSD 11, Section 2-2-20w4, is reported resuming drilling after a couple of months' shutdown. The hole bottomed at 266 feet with casing set at 260 feet, making a complete water shutoff. During the shutdown a supply of fuel oil has been trucked in. It is planned to drill considerable open hole. The test is expected to get the potential oil horizon in the top of the Madison lime at about 3,650 feet. Cad A. Roney of Los Angeles, jointly interested with Nordon Corp. in the test, is in charge of operations.

Cut Bank Field

On the Montana side, Alberta Pacific Consolidated Oils' No. 1 Kiesel, Section 11-34-6w, has finished a fishing job and is making new hole below 2,510 feet after running 10-inch casing. Alberta Pacific's No. 1 Matson, SE NW Section 14-34-6w, is reported trying to sidetrack lost tools at 2,760 feet.

Fred Mannix and associates of Calgary are interested in a test now being completed in Section 14-34-6w. The test got the sand around 2,850 feet and drilled in 29 feet when the hole filled with oil to a depth of 2,000 feet. A 10-hour swabbing test showed 90 bbls. and 196 bbls. was reported from a later 16-hour swabbing test. Some difficulty, however, is being experienced in completing the well owing to damage to the outfit. There are three other tests drilling, two standing and two reported rigged up.

Wainwright Operations

In the Fabyan section of the Wainwright Field, Beaumont Oils, Ltd., is reported planning to start its No. 3 test this spring. Beaumont's No. 2, LSD 10, Section 30-45-7w4, was recently completed at 2,210 feet with a fair production of heavy crude.

Northern Alberta Test

In the Athabaska district, Northern Alberta, Athadome Oils' No. 2, LSD 3, Section 15-66-23w4, is reported drilling open hole below 800 feet, after cementing against caving at 600 feet.

South Turner Valley

In the South Turner Valley, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is reported making new hole in the top of the Madison lime after cementing 6⅝-inch casing at 5,427 feet.

Farther north, Associated Royalties' No. 1 Spray, LSD 9, Section 5-19-2w5, is drilling below 3,320 feet and carrying 12½-inch casing. The outfit is running double tour. Samples indicate that the drill is working close to the McDougall-Segur sand, a potential light crude horizon, and the log indicates the test is higher structurally than most of the adjacent wells.

In the far south, Jesse and Frank Lundy's No. 1 will be drilled in LSD 13, Section 22-18-2w5. This will be east of Union Drilling Co.'s No. 1 wildcat, located in LSD 8, Section 21-18-2w5. Drilling on the Lundy test is expected to start early in the spring. Union Drilling Co.'s No. 1, spudded in toward the end of December, has been standing at shallow depth, waiting for an improvement in the weather. It is a mile south of the nearest active test in the Turner Valley Field and somewhat farther south of the nearest proven production.

North Turner Valley

In the North Turner Valley, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is drilling below 4,275 feet, and carrying casing down behind the tools.

Drilling in the Foothills

On the Moose Dome, Herron Cartage Co.'s No. 1 Moose Oils, LSD 16, Section 29-22-6w5, is cleaning out below 2,802 feet, with small shots of dynamite to help loosen the iron in the hole.

On the Monarch structure, Cartier-Majestic's No. 1, LSD 3, Section 36-31-7w5, is reported sidetracking after drilling out cement at 1,420 feet. Farther west, Hunter Valley Oil Co.'s No. 1, Township 31-10w5, is reported finishing derrick. The test was to have spudded about February 15, but owing to difficult hauling conditions will not likely get going till early in March.

Registered in Alberta

A number of oil companies organized originally under Dominion charter have recently been registered in Alberta. The latest to register include the Home Oil Co., Vancouver, British Columbia. This company some years ago pioneered the South Turner Valley development, some of its wells in Section 20-19-2w5, being for a time the outstanding producers in the field. It now has a small production from five wells in this section. Anaconda Oil Co., Calgary, has a royalty interest in two tests, originally started by the Anaconda company but now being completed by other interests. Anaconda's No. 1, now Model Oils' No. 2, is in LSD 16, Section 22-20-3w5, North Turner Valley, while Anaconda's No. 2, LSD 15, Section 28-18-2w5, in South Turner Valley is being finished by W. Fay Becker and associates as a test of the Dalhousie sand. Oil City Royalties, Ltd., Calgary, also registered in Alberta, was recently incorporated and has a test started in the Waterton Lakes area.

Test at Kelowna

In the Okanagan district, British Columbia, Okanagan Oil & Gas Co.'s No. 1, E half Section 2-26-Osoyoos Survey, near Kelowna, is making hole slowly below 2,630 feet. The test has traces of oil and gas above 2,520 feet, but these failed to develop commercial production.

Wildcat Test in Sombra

In Sombra Township, Lambton County, Ontario, Union Gas Co.'s No. 65 has been located in Lot 22, Concession 6, on the center of the north line. This represents an important wildcat test of acreage the company has been holding for some time in Sombra Township, south and west of the proven Dawn Field. The location is about 6 miles southwest of the company's recently completed oil wells in the west end of the Dawn Field, and a little closer to the nearest group of gassers in the southwest corner of the field. It is about 4 miles south of Dawn Oil & Gas Co.'s No. 1, in Lot 25, Concession 11, Sombra Township, which finished a dry hole last year. The latter tested the possibility of a northwesterly extension of the Dawn Field and Union's No. 66 will test the possibility of a considerable southwesterly extension.

Union's No. 65, Lot 24, Concession 2, Dawn Township, has been finished with a measured production of 1,329,000 feet a day following a shot of 200 pounds in the two lowest pays of gas. The upper

pays showed a smudge of oil along with some gas and were not shot.

Kent County Drilling

In Kent County, Ontario, Vacuum Gas & Oil Co.'s No. 4, Lot 53, North Talbot Road, has pulled casing and plugged the hole. The test was drilled originally to 2,035 feet, finishing in the Medina formation. A show of gas in the Salina was shot, but the increase was insufficient to justify finishing the well as a producer. The gas was sulphur gas, similar to the Tilbury product, and encountered in the same producing horizon; and its presence this far east of the Tilbury Field is regarded as indicating a good possibility of a commercial field in the vicinity. The outfit has been moved to a new location, 3,500 feet south, on the Smith farm, where Vacuum's No. 5 will be drilled. F. H. Stover & Son of Chatham are contractors for both wells.

Farther west, in the old Tilbury Field, Dr. W. A. Elgie and associates of Chatham have formed the Glenwood Syndicate, and will drill a test for gas on the Hope farm, S half Lot 10, Concession 13, Tilbury East Township. The location is in the Glenwood section of the field, and north of the Pere Marquette Railway. F. H. Stover & Son are moving in an outfit for the test which will be drilled to the Tilbury sand. Production will be taken by the Southern Ontario Gas Co. from which, it is understood, the leases were secured.

In the Raleigh Field, F. H. Stover & Son's No. 1 Earl Flook farm, E half W half Lot 19, Concession 8, Raleigh Township, which had a reported production of 25 bbls. a day after shooting and cleaning out, is reported shut down, pending the laying of a gas line. Gas production was rated around 300,000 to 500,000 feet a day. Producers' Gas Corp.'s No. 1 Cecil Chinnick farm, Lot 17, Concession 8, which failed to get any large production in the same sand, is shut down at 1,727 feet pending a decision whether to test the lower horizons. The drill is expected to get the bottom of the lime around 1,830 feet, but the test may be continued to he Trenton limestone, which has not been previously tested in the Raleigh area.

It is reported that Toronto interests represented by W. G. Rowe are planning to drill a test on the south side of the River Thames, near Prairie Siding. This is some miles south of the Dover Field, where both gas and oil were developed in 1917 in the Trenton formation. The Dover producing area was limited in extent, but the gas production in the larger wells is still holding up, and it is felt that a larger producing area will be found at a distance from the original field. It is possible the Prairie Siding test will be carried to the deep horizon, though drilling a number of years ago a little farther east along the river encountered small quantities of top show oil at shallow depth.

In Harwich Township, near Richardson's, Dr. Luke Smith of Chatham is drilling some shallow tests on the M. J. Wilson farm near Richardson's. Some years ago there was a small production of crude oil from a number of shallow wells in this vicinity, and it is hoped to revive the old field by new drilling. Luke Smith's No. 1 got salt water and No. 2 is reported temporarily shut down.

The Luke Smith interests are also reported arranging with a Toronto syndicate for new development acreage in Dover Township, where shallow gas production was encountered some years ago. The acreage is in the central section of the township, a few miles north and somewhat east of Pain Court. It is stated that a number of shallow wells drilled by Doctor Smith encountered fair quantities of gas in a shallow formation, while the shallow drilling is understood to have indicated a well-defined structure. Further development may be undertaken this spring.

ENGINEERING WEEK AT CHICAGO

Plans are being made for the conference of engineers at Chicago, during Engineering Week, June 25-30, sponsored by the Century of Progress Exposition. The Sixth Midwestern Engineering and Power Exposition will be held at the Coliseum during the week with exhibits of oil burners, Diesel engines, pumps, electrical apparatus, etc.

California Fields

(Continued from Page 48)

further development work on either Santa Rosa Island or Santa Cruz Island for the present. The company failed to log any showings of importance in its deep test on Santa Cruze Island and will probably quitclaim its leases in that area.

Kettleman Hills

Several potential producers are to be completed in the Kettleman North Dome Field during the next few weeks, although the completion of these new wells is not expected to be reflected in current daily production in as much as producers in this district are strictly observing curtailment. New wells are expected to be chalked up within the next 30 days by the Kettleman North Dome Association, Standard Oil Co. and Union Oil Co. This field is being held back and consequently is not the dominating influence which it would be if allowable daily production was predicated on the ability of the field to produce. Fortunately, operators in this field recognize the advisability of maintaining adequate prices and are governing their actions accordingly. Kettleman Hills, due to the substantial potential already proven, is in a position to dominate the production situation, but cannot do so without breaking the price structure. This field is easily capable of producing 250,000 bbls. per day, but must curtail daily production to 55,000 bbls. in order to prevent disruption of existing prices.

Kansas Fields

(Continued from Page 45)

tion 21-21-3w, made 190 bbls. from 3,425-38 feet. Mid-Kansas Oil & Gas Co.'s No. 1 Tinsley, NW cor. SW SE Section 6-20-1w, made 340 bbls. from 3,456-66 feet.

Russell County

Stanolind Oil & Gas Co.'s No. 31 Oswald, SW cor. NW Section 8-12-15w, made 53 bbls. from a total depth of 3,200 feet. It is an old well drilled deeper.

Rice County

Ramsey and others' No. 1 Smith, NW cor. SW Section 32-19-9w, is a rig.

Sedgwick County

Carter Oil Co.'s No. 1 Rowley, C E half NE NE Section 30-25-2, is a location.

D. I. WHITTELSEY DIES

NEW YORK, Feb. 13.—Daniel Ingersoll Whittelsey, president of the Oil Transfer Corp., with headquarters here, died at Battle Creek Sanatorium, Battle Creek, Mich., last week, after an illness of several months. A graduate of Sheffield School, Yale, Mr. Whittelsey, who had been a naval engineer and architect, organized Oil Transfer Corp. in 1922, in association with Henry A. Gilbert of Brooklyn, to handle tanker movement of petroleum from East Coast refineries to ports on the Great Lakes.

RENT ON CLAIMS

WASHINGTON, D. C., Feb. 13.—President Hoover has signed the bill of Senator Cutting of New Mexico to suspend payment of rent on coal, oil and gas claims when production is stopped by order of the Secretary of the Interior as a conservation step. The rent payment would be suspended as long as production was halted under the conservation order and the term of the lease would be extended by a corresponding period.

H. K. BECKER DIES

Herman K. Becker, Okmulgee, Okla., oil man, died last week in an Oklahoma City hospital after an illness of six months. He was 57. A resident of Okmulgee for 13 years, Mr. Becker formerly headed the firm of Becker & Huchinson, oil producers.

Weideman Is President of Western Kentucky Division

OWENSBORO, Ky., Feb. 11.—Carl J. Weideman, of the Cumberland Petroleum Co., was unanimously elected president of the Western Kentucky Division of the Kentucky Oil and Gas Association at a meeting of the directors which was held at Owensboro. Clarence Daugherty, local independent operator, and M. A. Arvin, manager of the Snowden-McSweeney Co., were elected vice presidents and J. W. Polkinhorn, of the Kentucky Natural Gas Co., was made secretary and treasurer.

The following 20 oil operators were named as directors: James C. Ellis, Josh Bailey, Carl Weideman, J. W. Polkinghorn, Charles A. Leeper, M. A. Arvin, J. C. Miller, C. E. Daugherty, J. A. Ford, James Pyle, Carl Wilking, C. A. Morrison, E. J. Evans, D. T. Bolling, W. K. Snyder, Paul Goldberg, A. J. Dolphin, Nick Shiarella, Fred Weir and Mike Callas.

Considerable interest was manifested when it became known that the oil-producing counties in the Cave City and Munfordville areas would be linked with the local organization which at present includes Ohio, Daviess, McLean, Hancock, Henderson, Muhlenberg and Union Counties. Hart, Warren, Barren and Allen are the other counties to be affiliated with the local division.

A plan was submitted whereby the royalty owners would be asked for a small assessment to take care of the disturbing tax situation in some of the counties. Counsel was retained to make an active fight before the State Tax Commission to clear up a number of irregularities which now exist and a very active fight will be waged by the local association to protect not only the producers but the royalty owners from unequal assessments.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 46)

GRANT PARISH

A. W. Phillips, tr.'s No. 1 Cameron, 300 ft. N, 200 ft. E. SW cor. SW NW Sec. 26-7-3w ..... Cmtd. 10-in.; S.D. 100 ft.
O. Robichaux's No. 1 T. M. Bradford, 1,870 ft. E, 314 ft. S, NW cor. Sec. 16-9n-1e ..... Derrick.
H. H. Temple's No. 1 Edenborn Est., 2,640 ft. E, 550 ft. S, NW cor. Sec. 20-7-3w ..... Derrick pattern.
H. H. Temple's No. 1 Guaranty State Bank, 200 ft. E, 200 ft. S, NW cor. Sec. 9-5-1 ..... Location.

JACKSON PARISH

A. C. Thomas' No. 1 J. W. Johns, SE cor. NE NE Sec. 25-15-3 ..... Derrick.

MOREHOUSE PARISH

H. G. Samson's No. 1 Barnes & Sullivan, NE cor. SW Sec. 12-21-7 ..... Rigging up.
H. W. Snowden's No. 1 Meyers, 330 ft. S and E, SW cor. NE NE Sec. 15-22-7e ..... S.D. 30 ft.

NATCHITOCHES PARISH

Allender & Rasmussen's No. 1 Cane River, 330 ft. N and W, SE cor. Sec. 61-6n-5w ..... S.D. 100 ft.
W. M. Coates' No. 1 Ross Olive, Sec. 10-9-10, 660 ft. S and E from cen. of Sec. ..... S.D. fuel, 2,150 ft.
DeSoto Bros.' No. 1 Smith, 1,000 ft. N, 2,000 ft. E, NE cor. Sec. 10, in Sec. 11-10-8 ..... Began drlg. Feb. 1; S.D. 30 ft.
J. B. Oil Co.'s No. 1 Hankins et al, Sec. 67-10-7 ..... S.D. 670 ft.
Natchitoches Pet. Co.'s No. 1 Edenbarn, 2,240 ft. W, 1,320 ft. S, NE cor. Sec. 4-11-6w ..... Drlg. shale 2,720 ft.
Sampson et al's No. 1 Friedman estate, 406 ft. N, 428 ft. E SW cor. Friedman estate in Sec. 52-7-6 ..... Moving in rig.
Texana Oil Co.'s No. 1 Clark-Morris Lbr. Co., 878 ft. N, 660 ft. E, C, Sec. 23-5-6 ..... Set 6⅝-in. 3,300 ft.; tested S.W. 3,475 ft; W.O.

OUACHITA PARISH

Inabnet & Pipe's No. 1 Van Horn, 1,980 ft. N, 660 ft. E. C Sec. 14-18-5 ..... Rig up; W.O.
Milhivan Gas Corp.'s No. 1 W. Va. L. & T. Co., 1,980 ft. E, 1,320 ft. N, center Sec. 10-17-5e ..... Location.
Monroe Oil & Royalties Co.'s No. 1 Thieler, 150 ft. N and E SW cor. SE NW Sec. 34-18-2e ..... Drlg. 2,634 ft.
Southren Carbon Co.'s No. 15 Fairbanks, 1,920 ft. N, 660 ft. W, SE cor. Sec. 5-19-4 ..... Began drlg. Jan. 29; cmtd. 12½-in. 180 ft; 8-in. 770 ft.

RAPIDES PARISH

Evers & Collingsworth's (was A. G. Beck et al) No. 1 Hickman-Simmons Lbr. Co., 330 ft. S, 330 ft. E, NW cor. Sec. 40-4-1e ..... Drlg. 450 ft.
Pet. Industries, Inc.'s No. 1 Lee Lbr. Co., 330 ft. N, 300 ft. W, SE cor. NW SE Sec. 13-5n-2e ..... Derrick.

RED RIVER PARISH

Edward & Clay's No. 1 Delta Pecan Co., 1,600 ft. N, 450 ft. E, SW cor. Sec. 27-13-11 ..... S.D. 1,700 ft.
H. M. Jones' No. 1 A. N. Sample, 330 ft. S, 330 ft. E, NW cor. Sec. 10-14-11 ..... Rigging up.
G. T. Shaw et al's No. 2 Wilkinson, 330 ft. N, 460 ft. W, SE cor. NE SE Sec. 4-12-10 ..... 700 ft. oil in hole; fishing swab.

RICHLAND PARISH

Humble Prod. Co.'s No. 1 fee, SW NW Sec. 11-14-6 ..... Location.

SABINE PARISH

Craft & Primm's No. 1 C. Alford, 720 ft. S, 460 ft. E, NW cor. SW NW Sec. 18-7-10 ..... Bailing to test 2,660 ft.
Ellis & Dumas' No. 1 Pickering Lbr. Co., SE SE Sec. 13-4-12 ..... Moving in rig.
Flinchbaugh & Myers' No. 1 Aaron, 250 ft. S and E, NW cor. Sec. 32-9-13 ..... Rigged up on second hole; W.O.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW Sec. 10-8-13 ..... Cored hard lime and shale 7,169 ft.; S.D. 7,154 ft.
R. T. Henderson's No. 1 Sistrunk, 450 ft. N, 150 ft. W, C, Sec. 9-9-12 ..... Cmtd. 6-in. 1,670 ft; bailed dry 1,-999 ft; bailing to test 1,999 ft.
Hells et al's No. 1 Sabine State Bank, 350 ft. N and W, SE cor. SW SW Sec. 28-8-11 ..... Cmtd. 6-in. top marl, 2,236 ft.; bailed dry; drlg. 2,385 ft.
Ab Jones' No. 1 Garcia, 300 ft. S and W, NE cor. NW SE Sec. 4-7-13 ..... T.A. 2,070 ft.
G. E. Jordan's No. 1 Dew, 330 ft. N, 340 ft. E, SW cor. SW SE Sec. 34-8-11 ..... Cmtd. 6-in. 2,351 ft; 500 ft. fluid; arranging acid test; T.D. 2,-435 ft.
G. W. Langley et al's No. 1 Peavy-Wilson Lbr. Co., 330 ft. S and W, NE cor. Sec. 16-5-9 ..... Derrick.
Geo. LeGrand's No. 1 McGough, 300 ft. S, 300 ft. E, NW cor. SW NW Sec. 2-8-10 ..... S.D. 2,410 ft.
C. D. Loe, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 12-9-14 ..... S.D. 1,715 ft.
Ben Merritt's No. 1 Lucina, 400 ft. N, 378 ft. E, SW cor. SW NE Sec. 4-5-12 ..... Derrick.
H. W. Perritt's No. 3 Brown Lbr. Co., 519 ft. S, 455 Roy Raines et al's No. 1 Beard, 720 ft. E, 700 ft. N, SW cor. SW SE Sec. 8-8-10 ..... S.D. 1,200 ft.
Reeves & McNeely's No. 1 Ponder, 336 ft. N and W Thornton et al's No. 1 S. S. Martines, 355 ft. S, 330 ft. W, NE cor. SE NE Sec. 4-7-13 ..... S.D. 2,048 ft.
Otis A. Roberts' No. 1 Sabine Lbr. Co., 224 ft. S, 451 ft. W, NE cor. SW NE Sec. 5-7-13 ..... S.D.; W.O. 2,500 ft.
Roberts & Sledge's No. 1 La. Long Leaf Lbr. Co., 390 ft. N, 468 ft. E, SW cor. NE SE Sec. 29-8-10 ..... Began drlg. Jan. 27; 10-in. 37 ft; S.D. 1,400 ft.
Roberts & Sledge's No. 2 Sabine Lbr. Co., 803 ft. W, 796 ft. N, SE cor. SE SW Sec. 5-7-12 ..... W.O.S.R. 2,480 ft.
Roahko & LaBane's No. 1 Maines, 427 ft. E, 114 ft. N, SW cor. SE SE Sec. 35-8-11 ..... S.D. 1,650 ft.

CONVERSE DISTRICT

Alford & Cleary's No. 1 Jackson, 330 ft. N and E, SW cor. SE NW Sec. 10-9-13 ..... Location.
Alford & Cleary's No. 1 Patrick, 330 ft. S and W, NE cor. SW NE Sec. 11-9-13 ..... Location.
Cloud & Bolin's No. 1 Bowman-Hicks, SE cor. NE NE Sec. 26-9-13 ..... Coring 3,130 ft.
Evans Bros.' No. 1 Cranford, 300 ft. S, 300 ft. W NE cor. SE SE, Sec. 20-9-13 ..... Cmtd. 8-in. top marl, 1,482 ft.; bailing to test 14-ft. limey shale; T.D. 1,504 ft; bailing to test; S.O. 1,574 ft.
H. P. Key's No. 1 T. J. Paul, 120 ft. S, 110 ft. W, NE cor. Blk. 35, Converse townsite in Sec. 10-9-13 ..... Location.
Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 ..... Cored chalk; S.O.; waiting 6-in.; T.D. 1,600 ft.
H. C. Lessenger's No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. Sec. 13-9-13 ..... Derrick.
Lee & Burnett's No. 1 Burckett, 330 ft. N and W, SE cor. NW SW Sec. 10-9-13 ..... Tested dry 1,795 ft; W.O.
Hy Rockmill's No. 1 Cassell, 330 ft. S, 330 ft. W, NE cor. Sec. 35-9-14 ..... Derrick.
Chief Oil Co.'s (was Rockmill et al's) No. 1 Bowman-Hicks, 330 ft. S and W, NE cor. NW Sec. 36-9-14 ..... Tested dry; S.D. 1,681 ft.
Nick Barbare's No. 1 Ryals, 330 ft. S and E, NW cor. Sec. 27-9-13 ..... Cmtd. 6-in. 1,515 ft.; top sand 1,535 ft; tested dry; W.O.; T.D. 1,555 ft.
Rockmill et al's No. 1 Patrick, 330 ft. S, 330 ft. E, NW cor. NE NW Sec. 21-9-13 ..... Drlg. 900 ft.
R. M. Self's No. 1 Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Derrick.
Service Drlg. & Royalty Corp.'s No. 1 Whitney Corp., 330 ft. N and W, SE cor. Sec. 32-10-13 ..... S.D.; W.O. 2,200 ft.
Ben Youngblood et al's No. 1 Burkst, 330 ft. S and W, NE cor. NE NW Sec. 19-9-13 ..... Derrick.
Reahke & Labarre's No. 1 Maines, 627 ft. E, 114 ft. N, SW cor. SE NE Sec. 25-8-11 ..... S.D. 1,650 ft.
Sabine Prod. Co.'s No. 1 Whiting Corp., 150 ft. N and E, SW cor. Sec. 4-9-13 ..... Top marl 1,470 ft. and cmtd. 6-in.; drlg. 1,730 ft.; tested S.W., small show gas 2,184 ft; S.D. 2,207 ft
Skidmore & Mise's No. 1 Stoker, 440 ft. N, 225 ft. E, SW cor. SE NW Sec. 33-8-10 ..... Junked 1,600 ft; arranging for new hole.
Southland Drlg. Co.'s No. 1 Frost Lbr. Co., 330 ft. N and W, SE cor. NE NE Sec. 13-9-11 ..... Cored chalk and shale; S.D. 2,467 ft.
Triangle Drlg. Co.'s No. 1 La. Long Leaf Lbr. Co., 330 ft. N and W, SE cor. Sec. 11-8-11 ..... S.D. 4,013 ft.
W. M. Ungerman's No. 1 F. Cross, 65 ft. S, 146 ft. W, NE cor. SW SE Sec. 25-8-11 ..... S.O. 2,635 ft.; W.O.
Ewolle Prod. Co.'s (was Baird Bros.) No. 1 Tatum, SW NE Sec. 25-8-12 ..... S.D. 2,360 ft.

TENSAS PARISH

H. V. Schumacker's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor. Sec. 39-11-12 ..... Reaming 3,673 ft.

UNION PARISH

E. S. Goens et al's No. 1 Frost Lbr. Co., 330 ft. S and E, NW cor. Sec. 17-23-3e ..... Drlg. 2,090 ft.
W. D. Wingfield et al's No. 1 Union Sawmill Co., 330 ft. N and E, SW cor. Sec. 27-23-1e ..... Sidetracking bit and collar 1,650 ft; T.D. 2,835 ft.

VERNON PARISH

Earl Jones' No. 1 Willis, 350 ft. N 400 ft. E, SW cor. SE SE Sec. 21-3n-9w ..... S.D. 820 ft.
Llano Co-operative Colony's No. 1 fee, NW NE Sec. 34-3n-9w ..... Fishing reaming tool; T.D. 3,637 ft.

WEBSTER PARISH

J. E. Bundy's No. 1 Walker, 300 ft. S, 300 ft. W, NE cor. SE NW Sec. 11-18-10 ..... Derrick pattern.
R. E. Silvey et al's No. 1 Drake est., C NE NE Sec. 14-19-10 ..... Cmtd. 6-in. 2,817 ft; arranging test; show oil and gas; T.D. 2,835 ft.

WEST CARROLL PARISH

Mamie S. McCurry's No. 1 Richard & Donnaw, 300 ft. N and E, SW cor. Sec. 13-19-5e ..... Cmtd. 8-in. 970 ft.

WINN PARISH

P.V.T. Oil Co.'s No. 1 Southern Paper Co., 150 ft. S and W, NE cor. SW Sec. 28-13-3 ..... S.D. for 8-in. csg. 1,050 ft.

Arkansas

CLEBURNE COUNTY

Frank S. Craver et al's No. 2 Doniphan Lbr. Co., 700 ft. N, 300 ft. E, SW cor. SW Sec. 34-11-9 ..... Cmtd. 8¼-in. 3,014 ft; drlg. rock 3,490 ft.

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenwelder, 300 ft. S and E, NW cor. NE NE Sec. 13-17-23 ..... Cmtd. 6-in. 2,480 ft.; claim show oil and gas 2,520 ft.; bailed down 1,100 ft; bailing S.W. 2,520 ft.
Allen E. Smith, tr.'s No. 1 J. M. Smith Est., 450 ft. N, 300 ft. E, SW cor. SE NW Sec. 5-16-18 ..... Derrick.

HEMPSTEAD COUNTY

A. G. Bagnell's No. 1 Trottner & Rhinehart (was reported Rhinehart & Trottner's No. 1 C. H. Jones), 330 ft. N, 330 ft. E, SW cor. SW SW Sec. 2-13-25 ..... Derrick.

JEFFERSON COUNTY

R. V. Harrell et al's No. 1 McGoughey NW cor. Sec. 32-7-10 ..... S.D.; W.O. 512 ft.

LAFAYETTE COUNTY

Chas. McDonald's No. 1 Allen, 400 ft. N and W, SE cor. SE SW Sec. 3-19-26 ..... Arranging D.S. test; small S.G.; T.D. 1,537 ft; arranging D.S. test, 15-ft. gas sand 2,267 ft.
Sam E. Wilson, Jr.'s No. 1 Smith, 330 ft. N and E, SW cor. NW SE Sec. 24-19-26 ..... Derrick.

LINCOLN COUNTY

Lawrence M. Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 220 ft. W, NE cor. NE SW ..... D.S. stuck 4,020 ft.

LITTLE RIVER COUNTY

American Portland Cement Co.'s No. 1 fee, 150 ft. S and E, NW cor. SW NE Sec. 21-12-33 ..... Cmtd. 10-in. 100 ft; drlg. 1,000 ft.
M. E. Sanderson's No. 1 Hale, 1,300 ft. E, 800 ft. N, SW cor. SE SE Sec. 12-13-29 ..... S.D. 1,495 ft.

MILLER COUNTY

Baker & McMurray's No. 1 Andrew Rose, 150 ft. S and W, NE cor. NE NW Sec. 4-16-26 ..... Recmtd. 10-in. 210 ft.
Capt. E. Byrd's No. 1 Miller Land & Lbr. Co., 1,320 ft. N and W, SE cor. Sec. 29-18-27 ..... Derrick.
Johnson & Burnham's (was John M. Burnham's) No. 1 E. L. Beck, 150 ft. N and E, SW cor. SW NE Sec. 35-15-26 ..... Coring red beds, no sand 3,032 ft.
John DeGrozier's No. 1 Andrew Rose, 150 ft. S and E, NW cor. N½ N½ NW NW Sec. 4-16-26 ..... Location.
John DeGrozier's No. 2 Andrew Rose, 155 ft. S and E, NW cor. N½ NE NE Sec. 4-16-26 ..... Location.
Duluth-Ark. Oil Co.'s No. 1 H. E. Beck, 150 ft. N, 170 ft. E, SW cor. NW SW Sec. 34-15-26 ..... S.D. 3,100 ft.
Duluth-Ark. Oil Co.'s No. 1 Price, NW cor. NE Sec. 18-15-25 ..... Rigging up.
Fitzwater et al's No. 1 C. J. Norsen, SW cor. SE SW Sec. 20-15-27 ..... S.D. 1,940 ft.
Fitzwater et al's No. 1 Fouke, 150 ft. S and W, NE cor. Sec. 11-17-27 ..... Cmtd. 12½-in. 105 ft; S.D.
Lee L. Foster's No. 1 Geo. Jones, 660 ft. N, 200 ft. W, SE cor. NW NW Sec. 29-16-26 ..... S.D. 1,240 ft.
J. T. Humphrey's No. 1 Grace, C SW SW Sec. 9-15-27 ..... Derrick.
Jenkins Bros.' (was Roy Jenkins et al's) No. 1 B. F. Smith, 330 ft. W, 330 ft. N, SE cor. SE SE Sec. 32-15-26 ..... D.S. test 3,010 ft; S.W.; W.O.
Jenkins Bros.' No. 2 Smith, 150 ft. S and W, NE cor. SE SE Sec. 32-15-26 ..... Location.
Jenkins Bros.' No. 3 Smith, 150 ft. S, 710 ft. W, NE cor. SE SE Sec. 32-15-26 ..... Location.
Jenkins Bros.' No. 4 Smith, 150 ft. S and E, NW cor. SE SE Sec. 32-15-26 ..... Location.
Magnolia Oil Co.'s No. 1 E. V. Olivet, 150 ft. S, 646 ft. E, NW cor. NE NE Sec. 4-16-26 ..... Began drlg. Feb. 7; drlg. 60 ft.
Bob Manziel's No. 1 B. F. Smith, 150 ft. N and W, SE cor. S½ S½ NE NE Sec. 32-15-26 ..... Fishing D.S. 2,930 ft.
Bob Manziel's No. 2 Smith, 150 ft. N, 660 ft. W, SE cor. NE SE Sec. 32-15-26 ..... Location.
Bob Manziel's No. 3 Smith, 150 ft. N and E, SW cor. NE SE Sec. 32-15-26 ..... Location.
Molar Oil Club's No. 1 A. M. Gibson, NW cor. SW Sec. 30-15-27 ..... Derrick.
W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor. Sec. 11-20-27 ..... S.D., W.O. 2,600 ft.
R. M. Olds' No. 1 E. D. Olivet, 150 ft. S and W, NE cor. NE SW Sec. 4-16-26 ..... Location.
Baker & McMurray's (was J. D. Reynolds') No. 1 E. L. Beck, 450 ft. E, 250 ft. N, SW cor. SW SE Sec. 35-15-26 ..... Derrick.
J. D. Reynolds' No. 1 B. F. Smith, 150 ft. N and W, SE cor. SE SW Sec. 33-15-26 ..... Location.
John C. Rogers' No. 1 Price, 330 ft. S, 400 ft. E NW cor. NW NW Sec. 17-16-25 ..... Rig up; S.D.
E. H. R. Sabens' No. 1 E. V. Olivet, 150 ft. S, 907 ft. W, NE cor. NE SW Sec. 4-16-26 ..... Location.
Simon & Birdwell's (was C. E. Starr's) No. 1 Barker, 330 ft. S, 150 ft. E, NW cor. NW SE Sec. 31-17-26 ..... Began drlg. Jan. 22; 10-in. 197 ft.
Sorrells & Tidwell's No. 1 Roy McCowan, 660 ft. S and E, NW cor. NW SE Sec. 23-15-28 ..... S.D.; 4-ft. sand 2,747 ft.
Stephens, Byers & Sartain's No. 1 Lowe, 600 ft. S, 300 ft. E, NW cor. SE NW Sec. 14-16-27 ..... D.S. test; small S.O. 2,052 ft; coring red beds 3,115 ft.
A. C. Taylor's No. 1 Williams, 150 ft. N and E, SW cor. SW NE Sec. 5-16-26 ..... Location.

OUACHITA COUNTY

Chas. Steele et al's No. 1 Anderson, 155 ft. S, 150 ft. E, from center Sec. 36-12-18 ..... S.D. 1,140 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW Sec. 3-4n-8w ..... Partly rigged up and S.D.

UNION COUNTY

Graves, Ferguson & Fuller's No. 1 Patterson, SW cor. NE NE Sec. 31-19-16 ..... Began drlg. Dec. 28; cmtd. 10-in. 103 ft; S.D.
Mamie McCurry et al's No. 1 Rowland, 300 ft. N and E, SW cor. Sec. 9-19-11 ..... Derrick.
Wilson & Chapman's No. 1-A D. Norman, 330 ft. S and E, NW cor. N½ NE SE Sec. 2-18-13 ..... S.D. 1,678 ft.

WOODRUFF COUNTY

B. F. Thompson's No. 1 Rosser, 500 ft. N and E, SW cor. SE SE Sec. 7-5n-2w ..... S.D.; W.O. 1,530 ft.

YELL COUNTY
(Cable tools)

Rainbow Oil & Gas Co.'s No. 1 Barrett SE cor. NE NE Sec. 16-5n-24 ..... S.D. 278 ft.

East Texas

BOWIE COUNTY

Roy Anderson et al's No. 1 Breckenridge, center 465-ac. Breckenridge tract in Nancy Dycas Sur. ..... Coring 3,030 ft.
Tom Bell et al's No. 1 Mara, 1,800 ft. N, 2,160 ft. W, NE cor. 465-ac. tract in O. D. Watson Sur. ..... Drlg. shale 1,616 ft.; (C.D.).
Lanford et al's No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 2,248 ft.

CASS COUNTY

Davis & Digg's (now Joiner Pet. Co.'s) No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,860 ft.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.

HARRISON COUNTY

Flanagan & Foster's No. 1 Davidson, 330 ft. N, 330 ft. W, SE cor. T. P. Bullock Sur. ..... Began drlg. Jan. 14; 10-in. 112 ft; drlg. 960 ft.
Great Eastern Oil Co.'s No. 1 Rudd, Wm. Steele Sur. ..... 10-in. 96 ft; 8-in. 846 ft; small S.G. 1,575 ft; cmtd. back to 1,275 ft.
A. E. Roscoe et al's No. 1 Vever Towell, NW cor. H. T. Edwards' 340 acres in Louis Watkins Sur. ..... Drlg. shale 3,708 ft.

MARION COUNTY

Baunoch Dev. Co.'s No. 1 Miller, 725 ft. N, 1,470 ft. E, SW cor. H. Fulgram Sur. (was Gist, Claunch & Dodson) ..... Washing to bottom; T.D. 4,585 ft.
Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D.; W.O.; Georgetown lime 3,701 ft.
Starling & Preston's No. 1 Henderson, R. Bennington Sur. H.R.S. ..... Drlg. chalk 2,570 ft.

PANOLA COUNTY

Carter-Skidmore et al's No. 1 C. J. Wooten et al. 735 ft. N, 185 ft. E, SW cor. C. J. Wooten tract in P. Martin Sur. ..... Location.
Hampton Drlg. Co.'s No. 1 Lloyd Thompson, 320 ft. N, 320 ft. W, NW cor. C. Flanagan Sur. in Allen Leach Sur. ..... Location.
Root-Skinner's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur. ..... S.D. for D.S. 740 ft.
J. L. Nelson et al's No. 1 J. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 47-ac. tr., James Hanks Sur. ..... S.D. 3,055 ft.

RED RIVER COUNTY

Aje Oil Co.'s No. 1 Nichols & Daniels, center S 750 acres of 1,800-ac. tract in Hugh B. Shaw Sur. ..... Location.
Concord Oil Co.'s No. 1 Dillahunty, 500 ft. N, 200 ft. W, SE cor. Robt. Glass Sur. ..... S.D. for fuel 2,827 ft. in lime.
L. S. Priest et al's No. 1 R. W. Peck, 500 ft. W, 990 ft. N, most southerly SE cor. 220-ac. tract in Abram Wagley Sur. ..... S.D. 1,302 ft.

SHELBY COUNTY

J. H. Francis' (now Bob Chew et al's) No. 1 John Mims, Mary Smith Sur. ..... Tested dry 2,842 ft; S.D. 3,438 ft
General Minerals Co.'s No. 2 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. D. S. Height Sur. ..... Cored lime 4,005 ft; arranging to plug back to 3,870 ft. to test gas show at 3,890-4,010 ft. in lime with streaks of shale.
Oil News' No. 1 Pickering, C. H. Patterson Sur. ..... Reaming 3,360 ft.
Noll Lease & Oil Well Synd.'s No. 1 W. P. Harvey, NW cor. W. P. Harvey 120 ac. in W. P. Harvey Sur. ..... Derrick pattern.
Prairie Creek Crude Co.'s No. 1 Ellington, 150 ft. and 300 ft. W from SE cor. 42-ac. tr., J. Burleson Sur. ..... Arranging cmt. 4½-in..; T.D. 3,422 ft.
Ridgeway et al's (now Roy F. Smith's) No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tract ..... S.D. 3,045 ft.
Redberry et al's No. 1 Pickering Lbr. Co., 600 ft. N, 400 ft. E, SW cor. Jane Stoddard Sur. ..... S.D. 2,375 ft.
Gray & Dunbar's No. 1 C. A. Hayden, 600 ft. N and W, SE cor. 152-ac. tr. in D. T. F. Yordt Sur. ..... S.D. for wtr. 2,280 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

BOSSIER—BELLEVUE AREA

Company, well, farm name, section and block—	Remarks:
H. I. Morgan's No. 2 Smith, 1,520 ft. N, 660 ft. W, SE cor., Sec. 32-19-11	Fishing D.S. 3,969 ft; red beds.

CADDO—RODESSA AREA

United Gas Public Service Co.'s No. 1 Levee Board, 1,980 ft. N, 1,320 ft. E, SW cor. Sec. 27-23-16	Coring 5,371 ft.

CADDO—BLANCHARD AREA

Louana O. & G. Co.'s No. 1 Carrie et al, 1,320 ft. W, 660 ft. S, NE cor. SE Sec. 32-19-16	Set 2½-in. tubing 2,745 ft; T.D. 2,771 ft.
Louana O. & G. Co.'s No. 1 Waskom, 660 ft. N and E, SW cor. Sec. 29-19-16	S.D. 84 ft.
Pyramid Oil Corp.'s No. 2 C. C. Wheeler, 660 ft. S, 250 ft. E, NW cor. Sec. 4-18-16	Set 10-in. 40 ft.

CADDO—HOSSTON

Caddo Prairie O. & G. Co.'s No. 1 Hawkins, C SE SW Sec. 14-22-15	Drlg. 1,400 ft.
Gibson Oil Co.'s No. 1 J. H. Dominick, 330 ft. S and W, NE cor. SW NE Sec. 31-23-14	Derrick.
Magnolia Pet. Co.'s No. 20 Doan-Thigpen, 600 ft. S, 470 ft. W NE cor. SE Sec. 6-20-15	Rigging up.

DE SOTO PARISH

Abernathy et al's No. 1 J. M. Nabors, 2,485 ft. E, 1,185 ft. N, SW cor. Sec. 32-13-11	Coring 2,550 ft.

SABINE PARISH—ZWOLLE

Alford & Avant's No. 1 J. J. Small, 124 ft. N, 420 ft. E, SW cor. NE NW Sec. 18-7-10	Derrick.
J. H. Askew's No. 3 Henderson, 400 ft. S, 150 ft. E. NW cor. SW SE Sec. 31-8-10	Derrick.
Baird Bros.' No. 3 Martines, 1,012 ft. S, 907 ft. E, NW cor. NW SW Sec. 2-7-13	S.D. 2,484 ft.
C. W. Beene et al's No. 1 Cutrer, 200 ft. N and E, SW cor. NW Sec. 12-7-11	Derrick.
Cameron Oil Co.'s No. 1 G. Martines, 845 ft. E, 540 ft. N, SW cor. Sec. 2-7-13	Cmtd. 6-in. 2,022 ft; T.D. 2,064 ft.
T. B. Carpenter's No. 1 Cutrer, 330 ft. S and E, NW cor. SE Sec. 12-7-11	Cmtd. 6-in. 2,546 ft.
Corning Oil Co.'s No. 1 T. L. Andries, 415 ft. E, 365 ft. S, NW cor. NE SE Sec. 15-7-11	Old well drilled to 100 ft. by Tuffree et al; rigging up.
Continental Drlg. Co.'s No. 1 Leone est., 70 ft. N, 200 ft. W, SE cor. Sec. 31-8-12	Top marl 2,210 ft; S.D. waiting for csg.
Corporation Oil Co.'s No. 2 Eberle, SE SE Sec. 36-8-11	Location.
Crescent Drlg. Co.'s No. 1 Malbry, 660 ft. N and E, SW cor. SE NW Sec. 2-7-11	Derrick.
Edwards & Hubler's No. 1 G. Martines, 510 ft. S, 330 ft. E, NW cor. SW SW Sec. 2-7-13	Derrick.
V. R. Hammons et al's No. 1 Travis, 540 ft. N, 150 ft. E, SW cor. NW SE Sec. 12-7-11	S.D. chalk, 2,610 ft.
D. D. Holcomb's No. 2 Quayhaglew, 149 ft. N, 200 ft. E, SW cor. SE SE Sec. 11-7-11	W.O.S.R. 2,652 ft.
H. L. Hunt's No. 2 Livingston, 330 ft. S and E, NW cor. SW NW Sec. 9-7-11	Top marl 2,340 ft; cmtd. 6-in. 2,330 ft; 1,500 ft. oil; W.O.S.R. after acid test; T.D. 2,396 ft.
Investors Prod. Co.'s No. 1 S. J. Williams, 660 ft. E, 600 ft. S, NW cor. Sec. 24-7-11	Cmtd. 6-in. 2,642 ft.
H. M. Jones' No. 1 Raines, 300 ft. S, 150 ft. W, NE cor. NW NW Sec. 14-7-11	Acid test 2,660 ft; 1,000 ft. oil in hole; W.O.S.R.
A. N. Landis' No. 1 La. Long Leaf Lbr. Co., 500 ft. S, 660 ft. W, NE cor. NE SW Sec. 29-8-10	Rigging up.
Lion Oil Ref. Co.'s No. 1 Trammell, 104 ft. N and E, SW cor. SE NE Sec. 30-8-11	Cmtd. 6-in. top marl, 2,271 ft.; use acid; W.O. 2,585 ft.
Lowery & Green's No. 1 Adair, 330 ft. N and W, SE cor. SE SW Sec. 19-8-11	Derrick.
Martin et al's No. 1 Porter, 330 ft. S, 330 ft. W, NE cor. NW SW Sec. 30-8-11	Derrick.
L. K. McGuffin's No. 2 Chadick, 200 ft. S, 200 ft. W, NE cor. NW SW Sec. 32-8-10	Location.
H. C. Moulding's No. 1 Brumley, 330 ft. N, 330 ft. E, SW cor. NW NW Sec. 2-7-11	Drlg. 700 ft.
C. D. Neff, tr.'s No. 3 Snell, 400 ft. E, 330 ft. N, SW cor. SE SE Sec. 9-7-11	Arranging pump 2,650 ft.
Nowlin & Cherry's No. 1 Turner, 109 ft. N, 330 ft. W, SE cor. Fractional NW NW Sec. 4-7-11	Dry; W.O. 2,347 ft.
Pelican Nat. Gas Co.'s No. 19 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. SE	Cmtd. 6-in. top marl 2,310 ft; dry 2,360-2,444 ft; standing 2,715 ft.
H. L. Patton's No. 1 Ponder, 330 ft. N and W, C Sec. 15-7-11	Top marl 2,376 ft; S.D.
Perkins & Babbin's No. 1 Hopkins, 260 ft. S, 270 ft. W, NE cor. Sec. NE SW Sec. 11-7-11	Cmtd. 6-in. top marl, 2,403 ft.; bailing to test; T.D. 2,572 ft.
Picayune Oil Co.'s No. 1 Porter, 330 ft. N and W, SE cor. NW SW Sec. 30-8-11	Top marl 2,372 ft; top chalk 2,388 ft; arranging 6-in. 2,395 ft.
Pugh-Hickman Drlg. Co.'s No. 1 Blackman, 330 ft. N and E, SW cor. NW NW Sec. 30-8-11	Cmtd. 6-in. 2,372 ft; tested dry 2,575 ft.
Pugh-Hickman Drlg. Co.'s No. 2 Blackman, 330 ft. S, 330 ft. E, NW cor. Sec. 36-8-12	Derrick.
Sam Rigga, tr.'s No. 1 Darby, N half SE Sec. 21-7-11	Small S.O. on acid test; fishing for bailer; T.D. 2,556 ft.
Ritchey Prod. Co.'s No. 1 Stille, SE NW Sec. 36-8-13	S.D.; repairs, 1,510 ft.
Robertson Drlg. Co.'s No. 1 J. W. Hughes, 1,820 ft. W, C. Sec. 36-8-12	Derrick.
Rotary Oil Corp.'s No. 1 Hale, 330 ft. S and E, NW cor. SW Sec. 1-7-13	Tested 100 ft. oil, using acid; T. D. 2,440 ft; arranging retest with acid.
C. T. Ruffin's No. 1 Lilly, 545 ft. S, 300 ft. W, NE cor. NW NW Sec. 8-7-11	Bailed dry on acid test; arranging pump; T.D. 2,376 ft.
R. M. Self's No. 1 Newton, 330 ft. S and W, NE cor. NE SE Sec. 1-7-11	Rig up.
Scully & Beach's No. 4 Lafitte, 225 ft. E, 197 ft. S, NW cor. SW NW Sec. 12-7-11	Derrick.
Scully & Beach's No. 5 Lafitte, 413 ft. E, 190 ft. W, NE cor. SW NW Sec. 12-7-11	Arranging swab through tubing 150 ft. in oil; T.D. 2,492 ft.
Service Drlg. & Royalties Corp.'s No. 2 Smith, Sec. 12-7-11	Arranging second acid test; T.D. 2,314 ft.
Ben F. Smith's No. 4 Turner, NE cor. NE NW Sec. 4-7-11	Rigging up.
Simmons et al's No. 1 Fleming, E½ SE SE Sec. 11-8-13	Rigging up.
Scully & Beach's No. 3 Lafitte, 1,030 ft. S, 134 ft. E, NW cor. Sec. 12-7-11	W.O.S.R. 2,492 ft.
F. E. Stancil's No. 1 Ponder, 273 ft. S, 397 ft. E, NW cor. NE SE Sec. 10-7-11	Bailing; acid test; lost bailer; T. D. 2,593 ft.
State Prod. Co.'s No. 1 Keaszle, 150 ft. N and W, SE cor. NW SW Sec. 3-7-13	W.O.S.R. 2,427 ft.
State Prod. Co.'s No. 1 Lites, 150 ft. S and W, NE cor. SE SW Sec. 28-8-11	Derrick.
State Prod. Co.'s No. 1 Sabine Lbr. Co., 365 ft. N, 100 ft. W, SE cor. NW SW Sec. 2-7-13	S.D. 2,427 ft; 1,000 ft. oil; W.O.S.R. W.O.S.R.; 1,600 ft. oil in hole; T.D. 2,428 ft.
The Texas Co.'s No. 1 Ponder, 1,490 ft. S, 200 ft. W, NE cor. Sec. 16-7-11	Bailed small S.O. 2,365 ft.; dry; arranging acid test 2,678 ft.
The Texas Co.'s No. 1 C. E. Cooper, 408 ft. S, 175 ft. E, NW cor. NE SE Sec. 20-8-11	Cmtd. 6-in. top marl, 2,304 ft.;
E. M. Thomasson's No. 1 W. & H. Andries, 500 ft. N, 150 ft. W, center Sec. 23-7-11	Cmtd. 6-in. 2,300 ft; top marl, 2,575 ft; top chalk 2,600 ft; dry 2,750 ft; W.O.
J. H. Watt et al's No. 1 Pouder, 200 ft. S, 135 ft. W, NE cor. NW NE Sec. 15-7-11	Derrick.
B. R. White et al's No. 1 Cooper, 330 ft. S and E, NW cor. SW NW Sec. 32-8-11	Derrick.
B. R. White et al's No. 1 Stille, 620 ft. W, 205 ft. N, SE cor. NE SW Sec. 25-8-13	S.D. 1,205 ft.
Zwolle Prod. Co.'s No. 1 Tatum, 550 ft. E, 330 ft. N, C Sec. 25-8-12	S.D. 2,360 ft.

Arkansas

OUACHITA COUNTY—SMACKOVER

L. L. McDonald's No. 1 J. A. Robertson, 200 ft. S and E, NW cor. NE NW Sec. 25-15-16	Rigging up.

East Texas

PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur.	S.D. 3,359 ft.

Mississippi

HINDS COUNTY

Geo. P. Adkins et al's No. 1 Woodland Hills, 400 ft. N and W, SE cor. NW NE Sec. 26-6-1e	Derrick.

RANKIN COUNTY

J. A. Baker et al's No. 2 Rankin Side Dev. Co., Sec. 6-4-2e	S.D. high wtr.; top chalk at 3,461 ft.
J. A. Matson et al's No. 1 Warner, 1,100 ft. S, 200 ft. W, NE cor. W½ SE Sec. 14-5n-1e	Waiting on csg. 2,477 ft.

Wildcat Operations in Mississippi

AMITE COUNTY

Company, well, farm name, section and block—	Remarks:
Magnolia State O. & G. Co.'s No. 1 Anderson, C NE NW Sec. 14-3n-2e	S.D. 400 ft.

CLARKE COUNTY

F. X. Gowans et al's No. 1 Effring, SE NE Sec. 13-1n-14e	S.D. 104 ft.

COVINGTON COUNTY

Eastman Gardner Interest's (was Modisette Drlg. Co.)	

HINDS COUNTY

Love & Lancaster's No. 1 Elton Plantation, C SE Sec. 17-4n-1e	S.D. Eutow (Blossom) 5,050 ft.
National Gas Co. of Miss.' No. 1 M. C. Halder, 160 ft. E, 660 ft. N, SW cor. Sec. 16-4n-1e	S.D. for csg. 810 ft.

JASPER COUNTY

B. B. Jones' No. 1 Bank of Philadelphia, 660 ft. N and W, SE cor. Sec. 35-3n-12e	Drlg. chalk 4,500 ft.

JACKSON COUNTY

Gulf Ref. Co. of La.'s No. 1 Danciger, 2,440 ft. S, 1,120 ft. W, NE cor. Sec. 27-4s-8w	Began Dec. 6; core drlg.

LAMAR COUNTY

Chas. W. Gorr et al's No. 1 Jordan, NW cor. SW Sec. 1-2n-15w	Derrick.
Stauffer & Kouri's No. 1 Bond, SE NE Sec. 18-2n-14w	D.S. stuck 3,025 ft.

MONROE COUNTY

P. J. McAlpine's No. 1 Rye, Sec. 22-15s-17w	Drlg. 2,685 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE Sec. 25-4n-11e	Drlg. sandy shale 2,450 ft.

RANKIN COUNTY

Home Oil Prod. Corp.'s No. 1 So. Jackson Land Co., 55 ft. S, 130 ft. W, NE cor. NW SW Sec. 23-5n-1e	S.W. and abd 2,500 ft.
Love Pet. Co.'s No. 2 Int. Lbr. Co., 450 ft. S and E, NW cor. Sec. 28-6n-2e	Drlg. chalk 2,670 ft.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e	Derrick.

SCOTT COUNTY

M. U. Culley et al's No. 1 Owens, Sec. 2-8-9	S.D. 750 ft.

SUNFLOWER COUNTY

Miss. O. & G. Dev. Co.'s No. 1 School land, 330 ft. N, 330 ft. W, SE cor. SE NE Sec. 16-20-4	Cmtd. 8¼-in. 330 ft; top Wilcox 1,140 ft; top Midway 2,490 ft; drlg. shale 3,190 ft.

WEBSTER COUNTY

P. J. McAlpine's No. 1 Hensley, Sec. 15-21-11	Cored Tuscaloosa 1,800 ft; S.D.

WILKINSON COUNTY

Foster Creek Oil Co.'s No. 1 Foster Creek Lbr. Co., Sec. 12-2n-2w	Drlg. 1,250 ft.

Wildcat Operations in Alabama

BALDWIN COUNTY
(Cable tools)

Company, well, farm name, section and block—	Remarks:
H. H. Givens' No. 1 Ashman, Sec. 10-6-5e	Drlg. 500 ft.

CULLMAN COUNTY

C. V. Corey's No. 1 King, NE cor. NE NW Sec. 35-8-4w	S.D. 710 ft.

LAMAR COUNTY

De Soto O. & G. Co.'s No. 1 Gardner, NW NW Sec. 23-15s-16w	S.D.; shale 3,300 ft.

WASHINGTON COUNTY

South Ala. O. & G. Co.'s No. 1 Wilson, Sec. 26-1n-1w	S.D. in sand 2,959 ft.

Gulf Coast Fields and Wildcats

(Continued from Page 52)

MANVEL—BRAZORIA COUNTY

Alpha Oil Co.'s No. 1 W. H. Nichols, H. M. Little Sur., 200 ft. W, 200 ft. N of SE cor. of tract	Drlg. shale 5,720 ft.
R. A. Gamble et al's No. 1 Sherwood, Lot 15, Allison-Richey Subd., H. N. Little Sur.	Drlg. shale 4,138 ft.
The Texas Co.'s No. 4 Belcher, Harvey Little Sur., 2,900 ft. S, 42 deg. W, 400 ft. S, 48 deg. E, out of N cor. of lease	Set 37¾ ft. of 7-in. screen 3,890 ft.; comp. flowing 82 bbls. hrly; ⅝-in. choke; 200 lbs. on tubing and 1,150 lbs. on csg.; went dead after 16 hrs.

BARBERS HILL—CHAMBERS COUNTY

Humble O. & R. Co.'s No. 2 Kirby, Henry Griffith League, 100 ft. W of E line of lease and 200 ft. N of No. 1	Drlg. caprock 1,181 ft.
Mills Bennett Prod. Co.'s No. 2-C Gulf fee, Wm. Bloodgood Sur., 175 ft. N of No. 1	Drlg. hard sandy lime 1,802 ft.
Sinclair Prairie Oil Co.'s No. 2 Smith (W.O.), W. D. Smith Sur., 39 ft. from N line, 50 ft. from E line of 30-ac. tract	Sandy shale 6,792 ft; reaming.
Sinclair Prairie Oil Co.'s No. 14 Wilburn, Henry Griffith League, 150 ft. W of No. 12	Salt 1,367-85 ft; cmtd. 13⅜-in. (O. D.) csg. 1,329 ft.
Sun Oil Co.'s No. 15 J. Wilburn, Wm. Hodges Sur., 343 ft. from N line, 420 ft. from W line of lease	Fishing drill pipe 4,507 ft.
Sun Oil Co.'s No. 16 Wilburn, Henry Griffith League, 150 ft. W of No. 14 and 50 ft. N of S line	Rig.
The Texas Co.'s No. 3 Lawrence fee, Henry Griffith League, 740 ft. W of E line in center of tract	Drlg. shale 4,432 ft.
The Texas Co.'s No. 9 Wilburn, Henry Griffith League, 530 ft. E of NW cor. and 50 ft. S of N line	Salt 2,035 ft; cmtd. cavity.
Texas Gulf Prod. Co.'s No. 12-H Kirby, Henry Griffith League, 429 ft. W of No. 8-H and 65 ft. N of S line	Drlg. shale and lime 3,765 ft.
Texas Gulf Prod. Co.'s No. 2 O. K. Winfrey, W. D. Smith Sur., 295 ft. N of SW cor. of A. E. Barber lease, 100 ft. W of E line of Winfrey lease	Salt 4,120-4,359 ft; standing.

Yount Lee Oil Co.'s No. 30 Chambers County, Wm. Bloodgood Sur., 180 ft. N of No. 2 and 50 ft. E of W line ..... Drlg. shale 1,896 ft.

Yount Lee Oil Co.'s No. 31 Chambers County, Wm. Bloodgood Sur., 175 ft. N of No. 20 and 50 ft. E of W line ..... Drlg. sandy shale 402 ft.

Yount Lee Oil Co.'s No. 4-A Zadie Fisher, Wm. Bloodgood Sur., 301 ft. from W line, 96 ft. from S line of tract ..... Coring sand showing oil 6,731 ft.

Yount Lee Oil Co.'s No. 1 John Schilling, Wm. Bloodgood Sur., 50 ft. W of E line, 139.2 ft. S of N line of tract ..... Derrick.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 1-A Gubbels, Samuel Kennedy Sur., 506 ft. N, 426 ft. E of SW cor. of 208-ac. tract..... Comp. 60 bbls. per hr.; ⅝-in. choke; 5,323 ft.

Gulf Prod. Co.'s No. 1 Hammerstrom, Samuel Kennedy Sur., 467 ft. N of S line and 466 ft. E of W line of lease ..... T.D. 5,394 ft; cmtd. 7-in. csg. to test.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 11-A F. I Booth, Samuel Kennedy Sur., 6,106 ft. E along N line of J. Rabb Sur., from NW cor. of E½ of survey and 467 ft. N at right angles ..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-A F. I. Booth, Samuel Kennedy, Sur., 893 ft. E of No. 10.. Drlg. sandy shale 5,016 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 4-A George, J. Rabb Sur. ..... Drlg. sticky shale 1,228 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 11-A Lockwood & Sharp, J. Rabb Sur. ..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 13-A Lockwood & Sharp, J. Rabb Sur., 4,174 ft. E. 522 ft. S of NW cor. of lease ..... Drlg. shale and boulders 1,210 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 14-A Lockwood & Sharp, J. Rabb Sur., 4,173 ft. from W line, 526 ft. from S line of lease ..... Location.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 15-A Lockwood & Sharp, J. Rabb Sur. ..... Derrick.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 11-B Lockwood & Sharp, J. Rabb Sur., 4,554 ft. from W line, 526 ft. from S line of "B" lease No. 3 ..... Comp. 55 bbls. per hr.; ⅝-in. choke, 5,291 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-B Lockwood & Sharp, J. Rabb Sur., 1,729 ft. from E line, 1,129 ft. from S line of "B" lease ..... Derrick.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 13-B Lockwood & Sharp, J. Rabb Sur., 5,382 ft. from W line, 526 ft. from S line of "B" lease ..... Derrick.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 7 Lockwood, J. Rabb Sur., 4,859 ft. from W line, 311 ft. from S line of 383-ac. tract ..... Drlg. sticky shale 5,210 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 6 Meyers, Samuel Kennedy Sur., 6,596 ft. E and 439 ft. N of SW cor. of 275-ac. tract ..... Drlg. shale 5,291 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 1 R. A. and O. H. Wolters, Robt. Peebles Sur., 325 ft. S and 500 ft. W of NE cor. of 1,000-ac. tract ..... Derrick.

Humble O. & R. Co.'s No. 4 Gubbels, Samuel Kennedy Sur., 1,400 ft. N, 2,460 ft. W of SE cor. of 100-ac. lease ..... Sandy shale S.O. 5,310 ft; cmtd. 7-in. csg.

Humble O. & R. Co.'s No. 5 Gubbels, Samuel Kennedy Sur., 1,460 ft. N, 1,476 ft. W of SE cor. of 100-ac. tract ..... Location.

SUGARLAND—FORT BEND COUNTY

Kelmm Prod. Co.'s No. 1 Peterson, Wm. Littel Sur., 160 ft. SE, 160 ft. SW of NE cor. of tract ..... Sand and shale 3,756 ft; preparing to set csg.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 3 Broussard, M. Dunman Sur., 150 ft. E of center of W line of tract ..... Drlg. hard sand 5,222 ft.

Yount Lee Oil Co.'s No. 33 Cade, N. Fitzsimmons Sur., 3,805 ft. from N line, 1,615 ft. from E line ..... Drlg. sand and lime 4,310 ft.

Yount Lee Oil Co.'s No. 34 Cade, N. Fitzsimmons Sur., 856 ft. S of No. 33 ..... Drlg. sand and shale 3,302 ft.

Yount Lee Oil Co.'s No. 1 Mathais fee, 150 ft. from S line, 192 ft. from E line of 23.44-ac. tract in Sarah Reeves Subd., Martin Dunman Sur. ..... Abd. in heaving shale 4,608 ft.

Yount Lee Oil Co.'s No. 14 Smith, Martin Duman Sur., 900 ft. W of No. 13 ..... Drlg. shale 4,200 ft.

SARATOGA—HARDIN COUNTY

Rio Brave Oil Co.'s No. 92 Jorditt, C. F. Jorditt Sur., 200 ft. S of No. 90 ..... T.D. 1,661 ft; P.B. to 1,411 ft. and milled out 1,150 ft.; comp. 6 bbls. net oil daily.

Seven Wells Oil Corp.'s No. 1 Teel, 400 ft. E of W line of Thomas Gates Sur., 1,250 ft. S of Magnolia Pet. Co.'s (Vacuum's) No. 3 Teel ..... No report.

SOUR LAKE—HARDIN COUNTY

M. M. Miller's No. 1 Libbie Oil Co., Stephen Jackson Sur., 1,380 ft. NW of Houston Prod. Co.'s No. 1 Merchant ..... Derrick; standing.

ARIOLA—HARDIN COUNTY

Houston Oil Co.'s No. 1-Y Ariola fee, 5,810 ft. from W line, 5,610 ft. from N line of Ariola Sur. ..... Heaving shale 5,760 ft.

HUMBLE—HARRIS COUNTY

Sun Oil Co.'s No. 66 River, Robert Dunman Sur., 1,732 ft. from S line, 284 ft. from E line of lease ..... Location.

Sun Oil Co.'s No. 70 River, Robert Dunman Sur., 1,222 ft. from S line and 284 ft. from W line of lease.... Comp. dry gas well 1,238 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 4 Minntex, 165 ft. S, 120 ft. W of NE cor. of Blk. 193, Wm. Lovett Sur. ..... No report.

PIERCE JUNCTION—HARRIS COUNTY

Gulf Prod. Co.'s No. 36 Taylor, James Hamilton Sur. No. 52, 650 ft. N of S line of survey, 100 ft. W of Rock Drlg. Co.'s No. 2 Hooks ..... Cmtd. 21 ft. of 4½-in. screen on full string of 4½-in. liner 4,481 ft.; drilled plug and tested gas with spray of oil; 1,300 lbs. pressure.

Rio Brave Oil Co.'s No. 14-A Settegast (W.O.), J. Kopman Sur. ..... T.D. 5,379 ft; pulling screen to W.O.

Rio Brave Oil Co.'s No. 28-A Settegast, J. Kopman Sur., 1,210 ft. from N line, 750 ft. from E line of "A" lease ..... Sandy shale 5,750 ft; cmtd. 6⅝-in. csg. 5,714 ft; preparing to drill plug.

Saxet Oil Co.'s No. 3 Herman (W.O.), J. Kopman Sur. No. 44 ..... T.D. 3,778 ft; pulling screen to W.O.

PANNETT—JEFFERSON COUNTY

Lowrie & Young's No. 1 Junker, Wm. Smith Sur., 125 ft. N, 100 ft. E of Gulf Prod. Co.'s No. 1 Junker in 340-ac. tract ..... No report.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 1 Davis (W.O.), David L. Kokernot Sur., 50 ft. from S and E lines of survey.. T.D. 3,594 ft; pulling screen to deepen.

Cranfill-Reynolds Co.'s No. 10 Moore's Bluff, M. Duncan Sur., 1,500 ft. from E line, 2,100 ft. from N line of 632-ac. tract ..... Drlg. shale 6,602 ft.

HULL—LIBERTY COUNTY

Aberoli Oil Co.'s No. 1 Barrow, Jesse Devore Sur., 64 ft. from N line, 760 ft. from E line of 10-ac. tract.. Sand showing oil 5,811-23 ft.; cmtd. 6⅝-in. csg. 5,800 ft; drlg. plug.

Carpenter & Parr's No. 2 Antilley, Jesse Devore Sur., 831 ft. W, 350 ft. S of NE cor. of 10-ac. lease ..... Derrick.

Eclipse Oil Co.'s No. 1 Gordon, Jesse Devore Sur., 50 ft. out of NE cor. of Empire 12-ac. lease ..... Rigging.

Empire G. & F. Co.'s No. 34 Barngrover, Jesse Devore Sur., 75 ft. out of SW cor. of lease ..... T.D. 5,219 ft; plugged to 4,761 ft; abd.

Hannah Oil Co.'s No. 1 Hannah, Jesse Devore Sur., 100 ft. W of The Texas Co.'s No. 1 Hannah..... Standing 3,665 ft.

Lynd & Rowe's No. 1 Noble & Lynd, Jesse Devore Sur., 137 ft. out of SE cor. of 5-ac. tract ..... Standing 3,564 ft.

Porter & Baggett's No. 1 Baggett, Jesse Devore Sur., 80 ft. from W line, 50 ft. from S line of 171-ac. tract ..... S.D. 2,071 ft.

Republic Prod. Co.'s No. 149 Dolbear, Jesse Devore Sur., 250 ft. W of No. 6 ..... Drlg. 2,000 ft.

D. L. Thibodeaux' No. 2 Taylor, Jesse Devore Sur., 100 ft. N of No. 1 ..... Derrick.

Unique Oil Co.'s No. 1 Knox-Nelson-Layton, Jesse Devore Sur., 30 ft. from N line and midway E and W of ½-ac. tract ..... Drlg. 3,360 ft.

MARKHAM—MATAGORDA COUNTY

E. M. Hamill et al's No. 3 Meyers, Wm. Hadden Sur., 225 ft. due W of No. 1 ..... D.S. test sand 3,220-28 ft; showed drv gas; coring deeper.

CONROE—MONTGOMERY COUNTY

Alpha Oil Co.'s No. 2 Keystone Mills, Lemuel Smith Sur., 456 ft. from S and E lines of 200-ac. tract.... Drlg. shale 3,516 ft.

Alpha Oil Co.'s No. 2-A Krohn, S. H. Bryan ..... Derrick.

Alpha Oil Co.'s No. 1-C South Tex. Dev. Co., T.&N.O. Sur. No. 13, 450 ft. from N line, 350 ft. from W line of 60 acres ..... T.D. 4,920 ft.

Amerada Pet. Corp.'s No. 2 South Tex. Dev. Co., 466 ft. from S line, 410 ft. from W line of C. A. West Sur. ..... Comp. 97 bbls. per hr.; ¼-in. choke, 5,121 ft.

Amerada Pet. Corp.'s No. 3 South Tex. Dev. Co., 909 ft. from W line, 1,905 ft. from S line of C. A. West Sur. ..... Drlg. shale 3,586 ft.

Bishop Oil Corp.'s No. 1 Rhoden, 466 ft. from E line in center N and S of 25.8-ac. tract ..... Derrick.

Bishop Oil Corp.'s No. 1 Rhoden, 466 ft. from W line in center N and S of 25.8-ac. tract ..... Location.

Bishop Oil Co.'s No. 1 Smith & Ratcliff, W. F. Rhodes Sur., 466 ft. out of SE cor. of lease ..... Drlg. shale 3,962 ft.

J. H. Coker's No. 1 McDonald, center Sec. 13, W.C.R.R. Sur. ..... Location.

H. M. Crighton's No. 1-A South Tex. Dev. Co., center of 16-ac. lease in T.&N.O. Sur. No. 5 ..... Location.

Farvin Oil Co.'s No. 1 R. Thompson, center of 10-ac. lease (Lots 55 and 58), C. A. West Sur. ..... Location.

Feltex Oil Co.'s No. 2 Keystone Mills, Lemuel Smith Sur., 1,041 ft. W of No. 1, in center of tract N and S.. Derrick.

Feltex Oil Co.'s No. 1 Kirby Bertrand, 466 ft. from N line of G. W. Wagers Sur. in center of lease east and west ..... Coring sand S.O. 5,041 ft.

John Gassell's No. 1 E. A. Walker, C. T. Darby Sur., center of 12-ac. tract ..... Location.

Gem Oil Co.'s No. 1 Ezra Moorehead, John McHorse Sur., center of 4-ac. tract ..... Comp. 75 bbls. per hr.; ¼-in. choke, 5,077 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 4 Keystone Mills, 489.3 ft. along N line of Ashby James Sur. from NW cor. and 466.6 ft. S at right angles ..... Comp. 75 bbls. per hr.; ¼-in. choke, 5,114 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 5 Keystone Mills, 934 ft. E of No. 3 and 467 ft. S of N line of Ashby James Sur. ..... Drlg. shale 4,754 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 6 Keystone Mills, 466 ft. out of most westerly NW cor. of A. S. James Sur. ..... Derrick.

Gulf Coast Drlg. & Prod. Co.'s No. 1-A Keystone Mills, Steele Sur., 1,368 ft. from W line of lease and 382 ft. from N line of survey ..... Spudded.

Hamill & Smith's No. 1 South Tex. Dev. Co., center of 5-ac. tract in T.&N.O. Sur. No. 5 ..... Rigging up.

Harrison & Abercrombie's No. 4 Alexander, John McHorse Sur., 356 ft. from E line, 425 ft. from S line of lease ..... Location.

Harrison & Abercrombie's No. 6 Alexander, John McHorse Sur., 466 ft. from W line, 300 ft. from S line of lease ..... Location.

Harrison & Abercrombie's No. 1 W. S. Massey, 466 ft. from S and W lines of John Massey Sur. ..... Derrick.

Harrison & Abercrombie's No. 1 Ben Wiggins, M. T. Wiggins Sur., 403 ft. from E line and 207 ft. from S line of 29-ac. tract ..... Drlg. shale 700 ft.

Harrison & Abercrombie's No. 1 Arthur Wiggins, 403 ft. W of E line and 207 ft. N of S line of T. M. Wiggins Sur. ..... Coring shale 5,097 ft.

Hooper-Rutherford Oil Co.'s No. 5 Hooper, I.&G.N. Sur., Abst. 649, 415 ft. from S line, 570 ft. from W line of lease ..... Rig.

Hooper-Rutherford Oil Co.'s No. 4 Hooper, I.&G.N. Sur. No. 649, center of tract E and W and due E offset Houston-Tidal's No. 1 Hooper ..... Drlg. shale 1,272 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 4 Cartwright, John Davis Sur., 332 ft. from E line, 799 ft. from N line of lease ..... Location.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Cartwright, John Davis Sur., 932 ft. E of No. 1 and 466 ft. from S line of lease ..... Set screen 5,172 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 6 Cartwright, John Davis Sur., 932 ft. E of No. 5 and 466 ft. from S line of lease ..... Derrick.

Houston Oil Co.-Tide Water Oil Co.'s No. 3 Joe Hamman, C. B. Stewart Sur., 467 ft. from E line, 1,511 ft. from S line of lease ..... Comp. 47 bbls. per hr.; ⅝-in. choke; 700 lbs.; 5,106 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 4 Hamman, C. B. Stewart Sur., 467 ft. from E line and 1,076 ft. S of No. 3 ..... Comp. 16 bbls. per hr.; 3/16-in. choke; 775 lbs.; 5,155 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Hamman, C. B. Stewart Sur., 466 ft. from S and E line of lease ..... Rig.

Houston Oil Co.-Tide Water Oil Co.'s No. 2 W. N. Hooper, Jr., I.&G.N. Sur. No. 11, 667 ft. S of No. 1 in center of tract E and W ..... Derrick.

Humble O. & R. Co.'s No. 8-A Cartwright, J. Davis Sur., 932 ft. NE of No. 6 ..... Location.

Humble O. & R. Co.'s No. 10-A Cartwright, John Davis Sur., 932 ft. E of No. 4 ..... Drlg. hard lime 2,577 ft.

Humble O. & R. Co.'s No. 2-C Cartwright, John Davis Sur., 850 ft. from S line, 800 ft. from E line of "C" lease ..... Drlg. shale 3,414 ft.

Humble O. & R. Co.'s No. 3-C Cartwright, J. Davis Sur., 1,375 ft. from E line, 466 ft. from S line of lease ..... Location.

Humble O. & R. Co.'s No. 1 P. Collins, 466 ft. out of NE cor. of 75-ac. tract, Lemuel Smith Sur. ..... Drlg. sticky shale 3,606 ft.

Humble O. & R. Co.'s No. 7 Dobbins, 452 ft. from N line, 1,514 ft. from W line of Ransom House Sur. .. Location.

Humble O. & R. Co.'s No. 8 Dobbins, Ransom House Sur., 1,084 ft. E of No. 7 ..... Location.

Humble O. & R. Co.'s No. 2 Emory, W.C.R.R. Sur., 2,-100 ft. from S line, 350 ft from E line .. .. Drlg. shale 3,788 ft.

Humble O. & R. Co.'s No. 3 Emory, 1,211 ft. from W line, 547 ft. from S line of W.C.R.R. Sur. No. 13... Location.

Humble O. & R. Co.'s No. 1-B Hirsch, D. McIntyre Sur., 350 ft. from S line, 450 ft. from W line of "B" lease ..... Drlg. sandy shale 4,888 ft.

Humble O. & R. Co.'s No. 3-B Hirsch, 1,311 ft. from W line and 647 ft. from N line of D. McIntyre Sur. — Drlg. shale 2,739 ft.
Humble O. & R. Co.'s No. 4-B Hirsch, D. McIntyre Sur., 933 ft. S of No. 3 — Location.
Humble O. & R. Co.'s No. 2 B. E. Jones (91 acres), 466 ft. from N line and 2,206 ft. from E line of Lemuel Smith — Rig.
Humble O. & R. Co.'s No. 8 Madeley, Ransom House Sur., S offset Hooper Rutherford Oil Co.'s No. 8 Madeley — Drlg. shale 1,627 ft.
Humble O. & R. Co.'s No. 9 Madeley, 171 ft. from N line and 651 ft. from W line of Ransom House Sur. — Drlg. shale 3,128 ft.
Humble O. & R. Co.'s No. 10 Madeley, Ransom House Sur., 1,718 ft. SE of No. 6 — Coring sandy shale S.O. 5,153 ft.
Humble O. & R. Co.'s No. 11 Madeley, Ransom House Sur., 1,393 ft. S of N line and 466 ft. W of E line. — T.D. 258 ft; cmtd. surface csg.
Humble O. & R. Co.'s No. 12 Madeley, Ransom House Sur., 900 ft. from N line and 1,310 ft. from W line of tract — Location.
Humble O & R. Co.'s No. 13 Madeley, Ransom House Sur., 1,100 ft. SE of No. 6 — Location.
Humble O. & R. Co.'s No. 14 Madeley, Ransom House Sur., 400 ft. S of N line, south offset Houston-Tide Water No. 2 Hooper — Comp. 72 bbls. per hr.; ¼-in. choke, 5,173 ft.
Humble O. & R. Co.'s No. 15 Madeley, Ransom House Sur., 978 ft. SW of No. 7 — Location.
Humble O. & R. Co.'s No. 28 Madeley, Ransom House Sur., 466 ft. S of N line, west offset Standard No. 1 Madeley — T.D. 490 ft; hole cratered; moved rig off.
Humble O. & R. Co.'s No. 30 Madeley, Ransom House Sur., 1,769 ft. NW of No. 31 — Location.
Humble O. & R. Co.'s No. 31 Madeley, 466 ft. from S line, 466 ft. from W line of Ransom House Sur. — Location.
Humble O. & R. Co.'s No. 32 Madeley, 452 ft. N of center of S line of Ransom House Sur. — Location.
Humble O. & R. Co.'s No. 23 Madeley, Ransom House Sur., 1,044 ft. E of No. 32 — Location.
Humble O. & R. Co.'s No. 1 L. B. McComb, L. Smith Sur., 500 ft. from W line, 253 ft. from N line of 150-ac. lease — Comp. 80 bbls. per hr.; ½-in. choke, 5,141 ft.
Humble O. & R. Co.'s No. 2 McComb, Lemuel Smith Sur., 600 ft. from W line and 255 ft. from N line of lease — Sand 5,060 ft; cmtd. csg.
Humble O. & R. Co.'s No. 4 Moore, Lemuel Smith Sur., 900 ft. N of No. 2 — Comp. 100 bbls. per hr.; ½-in. choke, 5,163 ft.
Humble O. & R. Co.'s No. 5 Moore, Lemuel Smith Sur., 933 ft. S of No. 2 — Comp. 116 bbls. per hr.; ½-in. choke, 5,130 ft.
Humble O. & R. Co.'s No. 7 Moore, Lemuel Smith Sur., 933 ft. E of No. 6 — Comp. 100 bbls. per hr.; ½-in. choke, 5,126 ft.
Humble O. & R. Co.'s No. 9 Moore, Lemuel Smith Sur., 933 ft. N of No. 6 — Spudded.
Humble O. & R. Co.'s No. 10 Moore, Lemuel Smith Sur., 933 ft. N of No. 6 — Spudded.
Humble O. & R. Co.'s No. 11 Moore, Lemuel Smith Sur., 933 ft. N of No. 7 — Rigging.
Humble O. & R. Co.'s No. 12 Moore, Lemuel Smith Sur., 1,700 ft. from S line, 1,250 ft. from W line of lease. — Comp. 106 bbls. per hr.; ½-in. choke, 5,133 ft.
Humble O. & R. Co.'s No. 13 Moore, Lemuel Smith Sur., 933 ft. SE of No. 4 — Drlg. sticky shale 1,263 ft.
Humble O. & R. Co.'s No. 14 Moore, Lemuel Smith Sur., 466 ft. from W line, 330 ft. from S line of tract. — Comp. 100 bbls. per hr.; ½-in. choke, 5,126 ft.
Humble O. & R. Co.'s No. 15 Moore, Lemuel Smith Sur., 933 ft. NW of No. 7 — Drlg. shale 1,274 ft.
Humble O. & R. Co.'s No. 16 Moore, Lemuel Smith Sur., 933 ft. SW of No. 6 — Drlg. shale 3,941 ft.
Humble O. & R. Co.'s No. 17 Moore, Lemuel Smith Sur., 933 ft. NW of No. 15 — Location.
Humble O. & R. Co.'s No. 18 Moore, Lemuel Smith Sur., 933 ft. NW of No. 8 — Location.
Humble O. & R. Co.'s No. 19 Moore, Lemuel Smith Sur., 933 ft. NW of No. 1 — Location.
Humble O. & R. Co.'s No. 21 Moore, Lemuel Smith Sur., 933 ft. SW of No. 9 — Location.
Humble O. & R. Co.'s No. 22 Moore, Lemuel Smith Sur., 933 ft. SW of No. 21 — Location.
Humble O. & R. Co.'s No. 27 Moore, 466 ft. from S and E lines of Lemuel Smith Sur. — Location.
Humble O. & R. Co.'s No. 2 Ezra Moorehead, 466 ft. E and 466 ft. S from most southerly NW cor. of L. A. Lang Sur. — Drlg. shale 2,845 ft.
Humble O. & R. Co.'s No. 1 L. B. Rooker (120 acres), J. M. Real Sur., 521 ft. from W line and 466 ft. from N line — Drlg. shale 4,974 ft.
Humble O. & R. Co.'s No. 4 L. B. Rooker, 466 ft. from W line, 503 ft. from S line of J. M. Real Sur. — Drlg. shale 1,200 ft.
Humble O. & R. Co.'s No. 28 South Tex. Dev. Co., 1,450 ft. from S line, 900 ft. from W line of T. C. Howell Sur. — Location.
Humble O. & R. Co.'s No. 29 South Tex. Dev. Co., 1,900 ft. from S line, 1,300 ft. from E line of T. C. Howell Sur. — Location.
Humble O. & R. Co.'s No. 32 South Tex. Dev. Co., 1,300 ft. from S line, 4,800 ft. from E line of Theo. Slade Sur. — Location.
Humble O. & R. Co.'s No. 33 South Tex. Dev. Co., 1,300 ft. from S line, 4,000 ft. from E line of Theo. Slade Sur. — Location.
Humble O. & R. Co.'s No. 34 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 33 — Location.
Humble O. & R. Co.'s No. 35 South Tex. Dev. Co., Theo. Slade Sur., 1,095 ft. NE of No. 34 — Location.
Humble O. & R. Co.'s No. 36 South Tex. Dev. Co., Theo. Slade Sur., 1,010 ft. NE of No. 35 — Location.
Humble O. & R. Co.'s No. 37 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 36 — Location.
Humble O. & R. Co.'s No. 39 South Tex. Dev. Co., Theo. Slade Sur., north offset No. 1 Sullivan State — Comp. 93 bbls. per hr.; ½-in. choke, 5,160 ft.
Humble O. & R. Co.'s No. 40 South Tex. Dev. Co., Theo. Slade Sur., 467 ft. N of S line, north offset Tide Water No. 5 Lewis — Comp. 98 bbls. per hr.; ½-in. choke, 5,163 ft.
Humble O. & R. Co.'s No. 41 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. S of No. 24 — Location.
Humble O. & R. Co.'s No. 42 South Tex. Dev. Co., Theo. Slade Sur., 1,114 ft. NE of No. 43 — Drlg. shale 1,282 ft.
Humble O. & R. Co.'s No. 43 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 31 — Spudded.
Humble O. & R. Co.'s No. 5-B South Tex. Dev. Co., 389 ft. from E line and 466 ft. from S line of C. T. Darby Sur. — Drlg. sandy shale 4,852 ft.
Humble O. & R. Co.'s No. 2 Mrs. L. Wiggins, Lemuel Smith Sur., 577 ft. from N line and 375 ft. from E line of tract — Drlg. sand 1,262 ft.
Humble O. & R. Co.'s No. 2 Williams, Lemuel Smith Sur., 253 ft. from N line and 600 ft. from W line of 46-ac. tract — Spudded.
Humble O. & R. Co.'s No. 3 Williams, Lemuel Smith Sur., 466 ft. W of E line in center of 46-ac. tract N and S — Drlg. sandy shale 4,715 ft.
McAlbert Oil Co.'s No. 1 Keystone Mills, A. Steele Sur., 433½ ft. S of N line of lease in center of tract E and W — Drlg. shale 345 ft.

J. R. Meeker's No. 1 Fannie Hooper, J. W. Watson Sur., center of 20-ac. tract — Drlg. shale 2,112 ft.
Mortex Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 13, 350 ft. from W line, 150 ft. from N line of tract — Drlg. shale 1,255 ft.
M. J. Munn's No. 1 South Tex. Dev. Co., 150 ft. from E line, 140 ft. from S line of Lot 114, Clark Beach Sur. — Coring shale 5,006 ft.
Navarro Oil Co.'s No. 1 Perry heirs, C. M. Wiggins Sur., 466 ft. from W line of lease in center N and S. — Comp. 30 bbls. per hr.; 5,070 ft.
Neuhaus & Horn's No. 1 South Tex. Dev. Co., center of L. L. Horn 16.31-ac. tract in T.&N.O. Sur. No. 5. — Derrick.
Neversuch Oil Co.'s No. 2 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 922 ft. N of No. 1, in center of tract E and W — Drlg. sandy shale 1,833 ft.
North Star Oil Co.'s No. 1 Crestwood, T.&N.O. Sur. 15, 466 ft. from S and W line of 77-ac. tract — Location.
Showers & Moncrief's No. 2 Dunn, Wilson Strickland Sur., 990 ft. S of No. 3 — Cmtd. surface csg. 1,352 ft.
Showers & Moncrief's No. 3 Dunn, Wilson Strickland Sur., 900 ft. S of No. 1 — Cmtd. csg. 943 ft.
Skelly Oil Co.'s No. 1 John Rhoden (formerly Farlyn Oil Co.'s No. 1 John Rhoden), Wilson Strickland Sur., center of 14.9-ac. tract — Comp. 75 bbls. per hr.; ½-in. choke, 5,099 ft.
Skelly Oil Co.-Conroe Oil Co.'s No. 2 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 467 ft. from N line of 32-ac. tract in center E and W — Spudded.
Southern Drlg. Co.'s No. 1 South Tex. Dev. Co., T.&N. O. Sur. No. 5, center of 5-ac. tract — Drlg. gumbo 1,261 ft.
South Gulf Oil Co.'s No. 1 E. M. Rauh, T.&N.O. Sur. 5, 338 ft. from E line of 20-ac. lease in center of N and S — Drlg. shale 4,432 ft.
Southland Oil Co.'s No. 4 Cummings, Wilson Strickland Sur. — Drlg. gumbo 3,579 ft.
Southland Oil Co.'s No. 5 Cummings, Wilson Strickland Sur., 766 ft. from E line, 284 ft. from S line of lease — Rig.
Standard Oil Co. of Kansas' No. 2 Madeley, Ransom House Sur., 933 ft. S of No. 1 — T.D. 1,200 ft; blew out and cratered; burning.
Standard Oil Co. of Kans.' No. 3 Madeley, Ransom House Sur., 480 ft. from E line and 466 ft. from S line of lease — Drlg. sand rock 1,117 ft.
Standard Oil Co. of Kansas' No. 2 Smith & Ratcliffe, lower W. S. Rhodes Sur., 207 ft. from N line, 403 ft. from E line — Drlg. shale 3,954 ft.
Standard Oil Co. of Kans.' No. 3 Smith & Ratcliff, W. S. Rhodes Sur., 466 ft. from N and W lines of lease. — Derrick.
Standard Oil Co. of Kans.' No. 4 Smith & Ratcliffe, W. S. Rhodes Sur., 503 ft. along E line of Rhodes Sur. from SW cor. of Humble's Rooker lease and west 466 ft. at right angles — Cmtd. csg. 517 ft.
Standard Oil Co. of Kans.' No. 5 Smith & Ratcliffe, W. S. Rhodes Sur., 466 ft. out of SW cor. of lease — Drlg. shale 913 ft.
Steinberger, Brown & Wheeler's No. 2 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 450 ft. from S line in center E and W of 20-ac. tract in 40-ac. lease — Spudded.
C. C. Steinberger's No. 2 South Tex. Dev. Co., T.&N.O. Sur., Abst. 568, 1,100 ft. from S line in center E and W of 25-ac. tract — Comp. 70 bbls. per hr.; ⅝-in. choke, 5,100 ft.
Strake Pet., Inc.'s No. 1 Keystone Mills, Lemuel Smith Sur., 1,200 ft. southward along W line of Alpha 200-ac. lease from NW cor. and 466 ft. W at right angles — T.D. 5,120 ft; cmtd. csg.
Strake Pet., Inc.'s No. 1 Elizabeth Moody, C. B. Stewart Sur., 1,400 ft. from S line and 467 ft. from E line of 726-ac. tract — Coring shale 4,200 ft.
Sun Oil Co.'s No. 1 Keystone Mills, 466 ft. from N and E lines of John Bricker Sur. — Drlg. shale 4,015 ft.
Sun Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur., No. 5, 467 ft. from S line in center E and W of 80-ac. tract — Rig.
Sun Oil Co.'s No. 1 W. S. Stewart, 466 ft. from S and E lines of J. M. Real Sur. — Drlg. hard sand 4,495 ft.
The Texas Co.'s No. 2 Dudley, C. B. Stewart Sur., 466 ft. from S and E lines of lease — Rig.
The Texas Co.'s No. 7 Moody, Ransom House Sur., 1,306 ft. from N line and 466 ft. from E line of lease. — T.D. 5,027 ft; cmtd. 7-in. csg. 5,023 ft.
The Texas Co.'s No. 10 Moody, 3,030 ft. from E line, 600 ft. from S line of Ransom House Sur. — Location.
The Texas Co.'s No. 12 Moody, Ransom House Sur., 932 ft. S of No. 8 — Location.
The Texas Co.'s No. 13 Moody, 2,180 ft. from E line, 466 ft. from S line of Ransom House Sur. — Drlg. gumbo 1,138 ft.
The Texas Co.'s No. 14 Moody, 1,330 ft. from E line, 466 ft. from S line of R ansom House Sur. — Comp. 86 bbls. per hr.; ½-in. choke, 5,044 ft.
The Texas Co.'s No. 15 Moody, Ransom House Sur., 966 ft. N of No. 14 — Location.
The Texas Co.'s No. 16 Moody, 1,383 ft. SW along S line of Wilson Strickland Sur. from SE cor. and 466 ft. S at right angles in Ransom House Sur. — Drlg. shale 4,595 ft.
The Texas Co.'s No. 18 Moody, N 60 deg. E 2,919 ft. and N 30 deg. W 253 ft. from SW cor. Ransom House Sur. — Drlg. sandy lime 2,474 ft.
The Texas Co.'s No. 19 Moody, 1,652 ft. NE along SE line of Ransom House Sur. from SW cor. and 466 ft. NW at right angles — Drlg. shale 370 ft.
The Texas Co.'s No. 20 Moody, 2,200 ft. E along S line of Wilson Strickland Subd. from SW cor. and 466 ft. S at right angles — Location.
The Texas Co.'s No. 2 Rhodes, 979 ft. 15 deg. W, 466 ft. N 75 deg. E of SW cor. of W. S. Rhodes Sur. — Location.
The Texas Co.'s No. 3 Rhodes, Rhodes Sur., 1,854 ft. N 15 deg. W and 466 ft. N 75 deg. E of SW cor. of survey — Comp. 95 bbls. per hr.; ½-in. choke, 5,126 ft.
The Texas Co.'s No. 5 W. S. Rhodes, 466 ft. S of SW cor. of C. T. Darby Sur., and 350 ft. at right angles in W. S. Rhodes Sur. — Location.
The Texas Co.'s No. 6 Rhodes, 2,090 ft. W of E line of lease and 466 ft. S of S line of C. A. West Sur. in W. S. Rhodes Sur. — T.D. 5,006 ft; cmtd. 7-in. csg. 4,998 ft.
The Texas Co.'s No. 7 Rhodes, 1,210 ft. from E line of lease and 330 ft. S of S line of C. A. West Sur. in W. S. Rhodes Sur. — Location.
The Texas Co.'s No. 8 Rhodes, 330 ft. S of S line of C. A. West Sur., and 330 ft. W of W line of John Massey Sur. in W. S. Rhodes Sur. — Location.
The Texas Co.'s No. 9 Rhodes, W. R. Rhodes Sur., 1,290 ft. from N line and 466 ft. from E line — Location.
The Texas Co.'s No. 10 Rhodes, 466 ft. W, 466 ft. N of SE cor. of W. S. Rhodes Sur. — T.D. 5,004 ft; cmtd. 7-in. csg. 4,990 ft.
The Texas Co.'s No. 11 Rhodes, 466 ft. from S line, 1,398 ft. from E line of W. S. Rhodes Sur. — Location.
Harvey Thornton's No. 1 John Rhodes, Ransom House Sur., center of 3.29-ac. tract — Cmtd. surface csg. 1,397 ft; standing.
Tide Water Oil Co.-Strake's No. 1 Dean, W. C. C. Lynch Sur., 370 ft. S of N line of survey and 2,489 ft. from W line of lease — Rig.
Tide Water Oil Co.-Strake's No. 2 Dean, W. C. C. Lynch Sur., 2,351 ft. S along W line of survey from SW cor. of E. P. Brown Sur. and thence 467 ft. E at right angles — Drlg. shale 932 ft.

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BETHLEHEM STEEL

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Tide Water Oil Co.-Strake's No. 2 Dean, W. C. C. Lynch Sur., 467 ft. from W line, 1,540 ft. from N line of lease ..... Location.
Tide Water Oil Co.'s No. 2 Freeman, John Davis Sur., 1,334 ft. from S line, 332 ft. from W line of 36 acres.. Drlg. gumbo 3,540 ft.
Tide Water Oil Co.'s No. 1 J. R. Eichletz, Lemuel Smith Sur., 2,147 ft. from E line and 225 ft. from S line of 100-ac. tract ..... Derrick.
Tide Water Oil Co.'s No. 2 J. R. Eichletz, Lemuel Smith Sur., 310 ft. from E line and 596 ft. from S line of 100-ac. tract ..... Location.
Tide Water Oil Co.'s No. 1 P. G. Krohn, S. H. Bryan Sur., 467 ft. from N and E lines of lease ..... Location.
Tide Water Oil Co.'s No. 2 P. G. Krohn, S. H. Bryan Sur., 2,150 ft. from N line, 467 ft. from E line of lease ..... Location.
Tide Water Oil Co.'s No. 10 Lewis, C. B. Stewart Sur., 650 ft. from E line, 466 ft. from N line of survey.. Comp. 95 bbls. per hr.; 5,143 ft.
Tide Water Oil Co.'s No. 11 Lewis, C. B. Stewart Sur., 1,565 ft. from N line, 467 ft. from W line of lease.. Comp. 112 bbls. per hr.; ½-in. choke, 5,143 ft.
Tide Water Oil Co.'s No. 12 Lewis, 1,584 ft. from E line, 467 ft. from N line of lease, C. B. Stewart Sur.. Drlg. shale 4,136 ft.
Tide Water Oil Co.'s No. 13 Lewis, C. B. Stewart Sur., 2,175 ft. from N line and 467 ft. from E line of lease Drlg. clay 350 ft.
Tide Water Oil Co.'s No. 14 Lewis, C. B. Stewart Sur., 3,583 ft. from N line and 467 ft. from E line of lease. Drlg. sandy shale 485 ft.
Tide Water Oil Co.'s No. 15 Lewis, C. B. Stewart Sur., 3,761 ft. from N line and 467 ft. from W line of lease Rig.
Tide Water Oil Co.-Republic Prod. Co.'s No. 3 South Tex. Dev. Co., T.&N.O. Sur. 18, 380 ft. from E line, 466 ft. from N line of lease ..... Drlg. rock 460 ft.
Tide Water Oil Co.-Republic Prod. Co.'s No. 4 South Tex. Dev. Co., 467 ft. from N line, 467 ft. from W line of T.&N.O. Sur. No. 8 ..... Derrick.
Tide Water Oil Co.-Republic Prod. Co.'s No. 5 South Tex. Dev. Co., T.&N.O. Svr. No. 8, 1,459 ft. from W line and 467 ft. from N line of lease..... Location.

PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 4 Stark, 675 ft. E, 340 ft. N of SW cor. Marshall Beauchamp Sur. ..... Cored sand and shale S.O. 3,541-56 ft; reaming to set csg.

CLAY CREEK—WASHINGTON COUNTY

Clay Creek Oil Co.'s No. 2 Bimage, J. F. Perry Sur., 1,600 ft. from S line, 150 ft. from E line of survey.. S.D. 1,354 ft; waiting heavier rig
Sun Oil Co.'s No. 6 Clay, J. F. Perry Sur., 300 ft. N of No. 5 ..... Tested dry 1,354 ft; pulling screen to deepen.

REFUGIO—REFUGIO COUNTY

Ed Jones' No. 4 Mitchell, Town tract, 900 ft. S of No. 1-B Mitchell ..... Shale 6,391 ft; setting csg.

SOUTH LOUISIANA FIELDS

JENNINGS—ACADIA PARISH

Olympic Oil Co.'s No. 1 Luckett, 1,150 ft. S, 75 ft. W of NE cor. Sec. 42-9s-2w ..... S.D. 2,122 ft.
Yount Lee Oil Co.'s No. 11 Housierre-Latriella, 1,010 ft. N, 5,050 ft. S of SW cor. Sec. 47-9s-2w ..... Drlg. shale 8,446 ft.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 2 Community, Sec. 31-10s-2e, 1,760 ft. S, 600 ft. W of No. 1 ..... Coring sand 3,729 ft.
Rio Bravo Oil Co.'s No. 1 Gumbel, 4,000 ft. W, 350 ft. S of NE cor. of S. Gumbel & Co. tract, Sec. 33-10s-3e.. Drlg. rock 4,995 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 23 United Land Co., Sec. 15-10s-4e, 300 ft. N and 90 ft. W of No. 3 ..... Drlg. shale 1,320 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 3 Waite, 330 ft. out of NE cor. SE Sec. 12-9s-7w ..... Cmtd. 13⅜-in. csg. 1,201 ft.
Shell Pet. Corp.'s No. 3 Pontenot, Sec. 7-9s-6w, direct E offset Magnolia's No. 2 Waite ..... Drlg. sandy shale 6,960 ft.
Shell Pet. Corp.'s No. 2 Heyd, 265 ft. N, 330 ft. W of SE cor. NE Sec. 13-9s-7w ..... Drlg. gumbo 1,140 ft.
Shell Pet. Corp.'s No. 1 Stafford, 325 ft. S, 325 ft. E of NW cor. Sec. 18-9s-6w ..... Drlg. shale and lime 2,650 ft.

LOCKPORT—CALCASIEU PARISH

Lockport Oil Co.'s No. 1 Phoenix ..... D.S. stuck 1,200 ft; standing.
Magnolia Pet. Co.'s No. 10 Bordages, Sec. 8-10s-9w, 1,001 ft. E, 338 ft. N of SW cor. of lease ..... T.D. 6,478 ft; cmtd. 7-in. csg.
Magnolia Pet. Co.'s No. 9 Faquahar, 200 ft. N, 150 ft. E of SW cor. NE SE Sec. 8-10s-9w ..... Drlg. gumbo 4,030 ft.
Magnolia Pet. Co.'s No. 33 Miller, Sec. 9-10s-9w, 200 ft. S and 535 ft. E of NW cor. of lease ..... Rigging up.
Union Sulphur Co.'s No. 5 Martha Moss, Sec. 8-10s-9w (location to come) ..... Location.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 771 fee (D.D.), 431 ft. S and 340 ft. W of center of Sec. 29-9s-10w ..... Tested S.W. 5,156 ft; pulling screen.
Union Sulphur Co.'s No. 776 fee, 125 ft. S, 1,490 ft. W of center Sec. 29-9s-10w ..... Comp. flowing 1,200 bbls. daily; ½-in. choke; 200 lbs. pressure, 5,022 ft.
Union Sulphur Co.'s No. 777 fee, 753 ft. E and 756 ft. N of center Sec. 29-9s-10w ..... Drlg. 350 ft.
Union Sulphur Co.'s No. 778 fee, 362 ft. N, 1,755 ft. W of center Sec. 29-9s-10w ..... Rig.

VINTON—CALCASIEU PARISH

Vinton Pet. Co.'s No. 22 Vincent, 685 ft. N, 620 ft. E of SW cor. Sec. 34-10s-12w, in Lot 116 ..... Drlg. gumbo 2,584 ft.
Wilson-Broach's No. 9 Wilson, Sec. 33-10s-12w, 200 ft. N of No. 8 and 28 ft. E of W line of Strip 7 ..... Temp. S.D. 4,262 ft.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line, 1,150 ft. from E line of tract ..... Coring sandy shale 4,458 ft.
Pure Oil Co.'s No. 3 Mulvey, 600 ft. S, 2,369 ft. E of NW cor. Sec. 34-11s-1w ..... Location.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 1 Hanszen, 300 ft. W and 30 ft. N of SE cor. SW SE Sec. 11-12s-10w ..... Drlg. 3,400 ft.
Calcasieu Oil Co.'s No. 40 Watkins, Sec. 24-12s-10w, 262 ft. S of No. 36 ..... Drlg. 3,205 ft.
Wilfred Lahaye's No. 1 Olevia, Sec. 36-12s-10w, in 2-ac. tract ..... Spudded and S.D.
Jim Oil Co.'s No. 11 Irwin, Sec. 13-12s-10w, 500 ft. N, 75 ft. W of No. 4 ..... No report.
Lackawanna Oil Co.'s No. 1 Ellender, 320 ft. S, 150 ft. E of NW cor. SE SE Sec. 21-12s-10w ..... Derrick.
Massert & Cruse's No. 1 J. B. Duhon, 656 ft. S, 325 ft. E of NW cor. Sec. 26-12s-10w ..... Derrick.
The Texas Co.'s No. 10-B State, 1,000 ft. E, 200 ft. N of NE cor. Sec. 13-12s-10w ..... Drlg. shale 4,520 ft.
The Texas Co.'s No. 11-B State, 1,000 ft. E, 600 ft. N of NE cor. Sec. 13-12s-10w ..... Location.
Union Sulphur Co.'s No. 2 Gulf Land-Pure lease, 1,958 ft. N, 200 ft. W of SE cor. Sec. 11-12s-10w ..... Sand S.O. 8,320-27 ft; D.S. stuck; abd.
Yount Lee Oil Co.'s No. 13 School Land, Sec. 15-12s-10w, 200 ft. S of No. 11 ..... Salt 3,316-4,505 ft.

PORT BARRE—ST. LANDRY PARISH

The Texas Co.'s No. 12 Botney Bay, Sec. 4-4s-5e, 185 ft. W of E line of lease and direct offset Gulf's No. 2 Wilson-Cockrun ..... Lime rock 3,436 ft; cmtd. csg.
The Texas Co.'s No. 14 Botney Bay, Sec. 4-4s-5e, 274 ft. W of most southerly NE cor. of 582-ac. tract.. Derrick.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 3 Gay, 530 ft. S, 200 ft. E of center Sec. 52-9s-11e ..... Drlg. 4,005 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 800 ft. S 66 deg. 42 min. from No. 9 ..... Drlg. sandy shale 5,716 ft.

CAMERON MEADOWS—CAMERON PARISH

Magnolia Pet. Co.'s No. 3 Cameron Meadows, 3,620 ft. S, 1,900 ft. W of NE cor. Sec. 21-14s-13w.....Set 1 joint of screen 5,273 ft.; comp. flowing 385 bbls. P.L. oil; ¼-in. choke; 900 lbs. pressure; flowed three days and stopped; pulling screen.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Cranfill-Reynolds Co.'s No. 1 J. B. Lewis, 3,150 ft. from N line, 330 ft. from W line of J. C. Hacienda Sur.....Rig.

Great Southern Oil Co.'s No. 1 Schevojsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur.....Drlg. shale 3,360 ft.

BRAZORIA COUNTY

Amerada Pet. Corp. and Rycade Oil Corp.'s No. 3 Seaburn, 1,250 ft. E of W line and 4,550 ft. S of N line of Austin & Williams Sur.....Rig.

Danciger O. & R. Co.'s No. 2 Hunt, Pledger, 6,550 ft. from E line, 5,550 ft. from S line of W. Carson Sur...Bldg. derrick.

Tri-fin Oil Co.'s No. 1 Moers, 1,435 ft. SW of Chocolate Bayou, 493 ft. SE of NW line of F. Moore Sur.....S.D. 3,102 ft.

BURLESON COUNTY

Ball & Knob's No. 1 Polansky, M. B. Lawrence Sur., 350 ft. from E line, 469 ft. from N line of 158-ac. tract.....No report.

Sampson O. & G. Co.'s No. 3 Duckworth & Gilley, P. Singleton Sur., 50 ft. SE of No. 1.....No report.

J. E. Stubblefield et al's No. 1 Mitchell, A. T. Woolridge Sur., 81 ft. SW, 4,340 ft. SE of S cor. of Joseph Henson Sur.....Gumbo 600 ft; standing.

CHAMBERS COUNTY

Weaver-Ray's No. 1 Fisher, John Tjams Sur., 210 ft. S of Rucker et al's No. 1 Fisher.....S.D. 2,400 ft.

COLORADO COUNTY

Danciger O. & G. Co. and L. E. Hulte' No. 1 C. L. Raver, B.B.B.&C. Sur., Sec. 1, 990 ft. out of SW cor. of 477-ac. tract.....Derrick.

Fabrigus & Poole's No. 1 Lake Side Irrigation, 1,500 ft. SE, 500 ft. NE of NW cor. of Patrick Reel Sur...Rig.

Humble O. & R. Co.'s No. 1 John McShane, L&G.N. Sur., Sec. 42, 466 ft. out of NE cor of tract.....Drlg. shale 2,583 ft.

Pilot Oil Co.'s No. 1 Tate, Cooke & DeWeese Sur., 150 ft. NE, 50 ft. NW of S cor. of survey.....S.D. 1,540 ft.

FORT BEND COUNTY

John Deering and Benedum & Trees' No. 1 Westenfeld, 900 ft. E of W line, 310 ft. N of S line of M. Escalera Sur.....Drlg. sticky shale 5,832 ft.

Lowrie & Young's No. 1 Jackson Brown, Pilant Lake, Wm. Barrett & Abner Harris Sur., 152 ft. E, 158 ft. N out of SE cor. Humble 132-ac. Brown lease in D. Hale 548-ac. tract.....Drlg. shale 5,176 ft.

Lynch et al's No. 1 Kneitz, 990 ft. from NW line, 350 ft. from SW line of Sec. 43, H.&T.C. Sur.....No report.

Naylor & DeCosta's No. 1 Naylor, 6,350 ft. N, 55 deg. E from SW cor. 653-ac. tract in Christman Sur.....T.D. 7,014 ft; standing.

GALVESTON COUNTY

Humble O. & R. Co.'s No. 1 Rosenkranz, Green's Bayou, center N½ of Lot 10, Sarah White Sur.....Drlg. shale 7,101 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur.....Standing 2,689 ft.

W. J. Brightwell's No. 1 Combs, Samuel Beauman Sur., 850 ft. from S line, 622 ft. E of extreme W line of 276-ac. tract.....S.D. 5,260 ft.

Terrell & Clay's No. 1 D. M. Howard, T. Jones Sur., 450 ft. from E line, 750 ft. from S line of lease.....Location.

HARDIN COUNTY

Joe E. Proctor's No. 1 Russell & Teague, 3,650 ft. E, 3,777 ft. N of NW cor. of Wm. W. Young Sur.....Standing 2,685 ft.

HARRIS COUNTY

Mills Bennett Prod. Co.'s No. 1 G. H. Klepple, March Sur., 400 ft. from N line, 330 ft. from W line of 84-ac. tract and survey.....Drlg. shale 4,589 ft.

John Deering et al's No. 2 Warren, T. Snell Sur., 100 ft. SW of No. 1.....Sand 2,420-26 ft; 1,800 ft. of oil in hole; to set csg.

Weatherall Prod. Co.'s No. 1 Rolf, approximately 750 ft. from N line and 1,000 ft. from W line of Brock Sur.....Location.

JASPER COUNTY

Smitherman, Neilson & Noble's No. 1 Cameron, Wm. Jones Sur., 400 ft. S 45 deg. W of SW cor. of J. W. Allen 300-ac. tract.....Shale 3,410 ft.

JEFFERSON COUNTY

Carroll & Miller's No. 1 C. A. Mashman, W. B. Dyches Sur., 462 ft. W of highway and 195 ft. S of NE line of 13-ac. tract.....Spudded and S.D.

Coastal Oil Co.'s No. 1 Young, 250 ft. from E line, 160 ft. from S line of 40-ac. tract, in Blk. F-5, Lot 4, Joseph Grigsby Sur.....Drlg. shale 3,875 ft.

Jack Schultz' No. 2 Todd, Cheek, 1,800 ft. S of No. 1 and 130 ft. E of W line of Wm. Carr Sur.....Shale 7,000 ft; S.D. to change rigs.

LIBERTY COUNTY

Mayes et al's No. 1 Dunman, J. C. Martin Sur., 1,111 ft. from S line of survey and 2,360 ft. W of Trinity River.....Spudded and S.D.; to drop from report.

James Papadakis' No. 1 Eicke, Reason Green Sur., 300 ft. from W line of 300-ac. tract in center N and S...Spudded and S.D.

MADISON COUNTY

G. C. Foster's No. 1 Poteet, J. S. Hunter Sur., 350 ft. from most southerly N line, 150 ft. from most westerly W line of 287⅛-ac. tract.....Cmtd. 10-in. csg. 150 ft.

MATAGORDA COUNTY

Cockburn Oil Corp.'s No. 5 Hawkins, Shepherds Mott, 2,200 ft. SE, 1,800 ft. NE of W cor. Daniel McCarthy Sur.....T.D. 5,320 ft; drill pipe stuck; plugged back to 2,150 ft.

E. E. Comb's No. 1 Wadsworth, 3,350 ft. from S line, 2,750 ft. from W line of upper S. R. Fisher Sur.....Rig.

Dr. Griffith et al's No. 3 Baer, Big Hill, 5,000 ft. N, 3,000 ft. E from SW cor. of Seth Ingram Sur.....Standing 2,720 ft.

R. L. Sprinkle et al's No. 1 Turner, 4,900 ft. from NE line, 3,800 ft. from SE line of M. Cummings Sur....Rig.

United North & South Dev. Co.'s No. 2 Stoddard, 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite.....Standing partly rigged up.

United North & South Dev. Co.'s No. 1 St. L. & B. M. "Y," 200 ft. S of main line of RR and 200 ft. NE of SW fork of "Y" in townsite, J. C. Keller Sur.....Coring shale 7,735 ft.

MONTGOMERY COUNTY

C. J. Daniels' No. 1 A. H. Salis, Wm. Barker Sur., 390 ft. from E line, 400 ft. from N line of W 36 acres of Salis tract.....S.D. 1,620 ft.

Mound Creek Oil Co.'s No. 1 Sealey, 3,751 ft. E and 5,088 ft. N, from SW cor. of M. Cartwright Sur. in John Sealey Sur.....S.D. 3,600 ft.

A. H. Parsons et al's No. 3 Drought, Kronknite Sur., 3,000 ft. N, 100 ft. E of NW cor. of A. B. Hill 46½ acres.....S.D. 3,900 ft.

R. L. Sprinkle's No. 1 Rohlfs, 500 ft. out of SW cor. of H. Proneus Sur.....No report.

Sutton-Hawkins' No. 1 Foster, Hosea de la Garsa Sur., 3,333 ft. N, 1,320 ft. E of NE cor. of W. J. Johnson 100-ac. tract.....S.D. 4,287 ft.

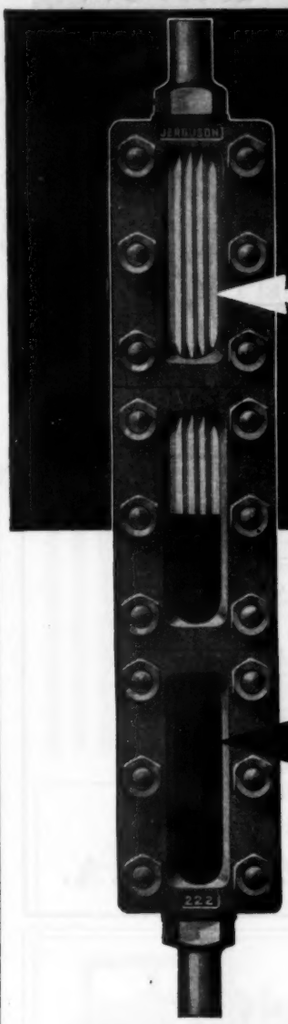
NEWTON COUNTY

L. A. James et al's No. 1 Price, T.&N.O. Sur., 1,000 ft. from W line, 500 ft. from N line of tract.....Standing 2,240 ft.

POLK COUNTY

Anderson et al's No. 1 Duke, Peter J. Manard Sur., 320 ft. out of NW cor. of 235-ac. tract.....S.D. 3,948 ft.

This gage shows in *BLACK* and *WHITE*



The EMPTY SPACE shows WHITE

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Harrison & Abercrombie's No. 1 Carter (538-ac. lease), N 40 deg. E 1,151 ft. and N 50 deg. 145 ft. out of NW cor. of John Sweeney Sur. ..... S.D. 4,750 ft.
Koch & Stevens' No. 1 Ruth Lawrence, Castallian Sur., 300 ft. from W line, 790 ft. from S line of 54-ac. tract ..... S.D. 2,683 ft.
Roxie Oil Co.'s No. 1 Reed, A. Viesca Sur., 150 ft. out of NW cor. of 479-ac. lease ..... Location.
Toner & Purdy's No. 1 Martha Roberts, Joaquin T. De Rumayor Sur. ..... Coring sandy shale 5,046 ft.

REFUGIO COUNTY

Gulf Prod. Co.'s No. 2 J. O'Connor (W.O.), C.E.P.I.&M. Co. Sur. No. 40, 1,200 varas from S line, 1,500 varas from E line of tract ..... Drlg. shale 6,400 ft.
Gulf Prod. Co.'s No. 3 O'Connor, C.E.P.I.&M. Co. Sur., No. 133, 6,226 ft. SW along SE line from NE cor. of John O'Connor land, thence 2,639 ft. NW at right angles ..... Derrick.
Humble O. & R. Co.'s No. 3 O'Connor, Florentine Rice Sur., 13,757 ft. from S line at right angles, 3,412 ft. from E line at right angles of 5.545-ac. ranch ..... Drlg. sand and shale 6,132 ft.

SAN JACINTO COUNTY

Weaver et al's No. 1 Deitz Land & Timber Co., 1,400 ft. NE of SW line of James W. Robertson Sur., and 300 ft. at right angles ..... No report.

TRINITY COUNTY

C. M. Beckner's No. 1 Gibson, Wm. Beasley Sur., 600 ft. S along E line of survey and 150 ft. W at right angles ..... T.D. 1,192 ft; plugged to 999 ft.

TYLER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1 Sam Jeffcoat, E. Thompson Sur., 467 ft. N and E from SW cor. of 100-ac. tract ..... Derrick.
Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby, E. Thompson Sur., 467 ft. N and E from NE cor. of Sam Jeffcoat 100 acres ..... Cmtd. 10-in. csg. 882 ft.
Republic Prod. Co. and Houston Oil Co.'s No. 2 Kirby, E. Thompson Sur., 160 ft. out of SE cor. of 128-ac. tract ..... Derrick.
Republic Prod. Co. and Houston Oil Co.'s No. 1 Kirby-McShane, 467 ft. S and W of most northerly NE cor., B.B.B.&C. Sur. No. 17 ..... Abd. in wtr. sand 5,347 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 3 Keeran Ranch, Martin DeLeon Sur., 1,320 ft. NW of No. 1 ..... Drlg. sticky shale 6,835 ft.
Stoneleigh O. & G. Co.'s No. 1 E. B. Terrell, SW cor. R. Manchola Sur. No. 2 ..... Location.
The Texas Co.'s No. 6 McFaddin, 5,600 ft. S 15 deg. W and 450 ft. N 75 deg. W from E or NE cor. of Andrew J. Gary Sur. ..... Drlg. surface sand 316 ft.
Quintana Oil Co.'s No. 1 McCormic, 600 ft. from SW line, 600 ft. from NW line of S.A.&M.G. Sur., Sec. 3, in most westerly NW cor. ..... Drlg. shale 5,407 ft.
Union Oil Co.'s No. 2 Keeran, Martin DeLeon Sur., 500 ft. E of E line of Gulf lease and 1,900 ft. N of railroad ..... T.D. 6,648 ft; sidetracked to sand 5,494-5,507 ft; D.S. test showed 420 lbs. gas; to set csg.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson, Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson 71-ac. tract ..... S.D. 2,100 ft.

WALLER COUNTY

Birdwell et al's No. 1 Robertson, John Baker Sur., 1,625 ft. from S line, 450 ft. from W line of 64-ac. tract ..... Derrick.

WASHINGTON COUNTY

Yequa Oil Co.'s No. 18 Pomacal, S. M. Williams Sur., 1,282 ft. from W cor. of Shulz 44-ac. tract, thence 123 ft. NW at right angles ..... T.D. 1,515 ft.

WHARTON COUNTY

Herman Heep's (was Dayvault-Tyler-Gardner's) No. 1 Dayvault, Wm. Kincheloe Sur., 200 ft. SW, 600 ft. SE of N cor. of 298-ac. tract ..... S.D. 5,152 ft.
Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 25, Morris & Cummings Sur. ..... Coring hard sand 3,552 ft.
Smith & Daniels' No. 1 Mitchell, H.&T.C. Sur. No. 8, 330 ft. from NE line of NE 80-ac. tract in center of tract NW and SE ..... Drlg. shale 6,500 ft.
Steed Prod. Co.'s No. 1 Tucker, 210 ft. W, 80 ft. N of NE cor. of S½ of SW¼ of Sec. 58, E.T.R.R. Sur. ..... Coring black shale and packed sand 4,710 ft.

SOUTH LOUISIANA

BEAUREGARD PARISH

Beaver Pet. Co.'s No. 1 Long Bell, 755 ft. S and 155 ft. E of NW cor. NW NW Sec. 34-2s-8w ..... Drlg. 200 ft.
DeRidder Dev. Co.'s No. 1 McMahon, 200 ft. W, 166 ft. S of NE cor. of NW Sec. 33-2s-9w ..... Standing 1,286 ft.
Trapp & Turnbull's No. 1 Long Bell, 102 ft. N, 227 ft. W, out of SE cor. SE SW Sec. 26-2s-10w ..... Spudded and S.D.
Trapp & Turnbull's No. 1 Roberts, 600 ft. W, 150 ft. S of NE cor. NW NE Sec. 6-3s-10w ..... Location.

CALCASIEU PARISH

Cannon & Hughes' No. 1 J. S. Reed, Sec. 18-10s-12w ..... Derrick.
I. R. Irvine et al's No. 1 A. D. Mimms, 741 ft. N, 741 ft. W of SE cor. SE NE Sec. 26-9s-7w ..... S.D. 2,060 ft.

JEFFERSON DAVIS PARISH

R. D. Finly's No. 1 Clarphy Lognion, SW NW Sec. 22-10n-4w ..... S.D. 1,670 ft.
Humble O. & R. Co.'s No. 1 Devillas, 1,650 ft. S, 250 ft. W of NE cor. of Sec. 14-9s-4w ..... Drlg. sand and shale 4,060 ft.

LA FOURCHE PARISH

Lehuln Oil Co.'s No. 1 La. Fourche Land Co., 150 ft. out of SE cor. NW NW Sec. 32-18s-22e ..... Spudded and S.D.

PLAQUEMINES PARISH

The Texas Co.'s No. 7 Garden Island ..... No report.

ST. BERNARD PARISH

Cook Drlg. Co.'s No. 1 Delecroix farm ..... Sandy shale 5,040 ft.

TERREBONNE PARISH

The Texas Co.'s No. 7 Calliou Island, 300 ft. S, 300 ft. W of NE cor. Sec. 19-23s-20e ..... Cap rock 2,819 ft; abd.
The Texas Co.'s No. 7 State-Dog Lake ..... Lime rock 1,840 ft.
The Texas Co.'s No. 17 State-Lake Barre, 1,476 ft. W, 624 ft. S of NW cor. Sec. 20-21s-20e ..... Lime rock 3,915 ft.
The Texas Co.'s No. 4 Lake Barre-L.L.&E., 2,803 ft. S, 2,075 ft. W of NW cor. Sec. 20-21s-20e in Sec. 36-21s-19e ..... Sand 3,971-74 ft; cmtd. csg.
The Texas Co.'s No. 8 Lake Pelto-State, 928 ft. S and 628 ft. E of NW cor. of Sec. 9-22s-18e ..... Setting up.

VERMILLION PARISH

Shell Pet. Corp.'s No. 1 Herbert, 2,310 ft. W, 330 ft. N of SE cor. Sec. 10-14s-1e ..... Drlg. shale 3,000 ft.

VERNON PARISH

R. E. Kay, tr.'s No. 1 Willis, 350 ft. N and 400 ft. E of SW cor. SE SE Sec. 33-3n-9w ..... Location.
Minerals Division Llano Co.'s No. 1 Llano Del Rio, 543 ft. E, 300 ft. S of NW cor. NW Sec. 34-2n-3w ..... No report.

Wildcat Operations in Southwest Texas

(Continued from Page 49)

BASTROP COUNTY

Champion's No. 1 Rivera, center W½ of 800-ac. tract in Osborne Sur. ..... T.D. 1,520 ft; S.D.
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur. ..... T.D. 265 ft; S.D.

Humble O. & R. Co.'s No. 1 Annie Hassler, 750 ft. from W line, 330 ft. from S line of lease in Samuel Wolfenberger Sur. ..... T.D. 2,577 ft; set csg.

Marts & Beavens' No. 1 Roy Rivera, 860 varas from SE lines, 54 varas from NE lines of Mrs. Lucy Rivers' 582-ac. Elizabeth Standifer Sur. 24 ..... T.D. 1,990 ft; drlg.

Properties Trading Co.'s No. 1 Henry Freitag, 400 ft. from SE line, 1,800 ft. from NE line of P. Conley Sur. ..... T.D. 2,234 ft; S.D.

Nelson Pruitt's No. 1 C. Lentz, 330 ft. from NE line, 2,050 ft. from SE line of 400-ac. tract in J. B. Lents Sur. ..... T.D. 2,501 ft; waiting on csg.

H. Robertson's No. 1 Schmidt, 25 ft. from N line, 850 ft. from W line of D. H. Dyer Sur. ..... T.D. 400 ft.; S.D.

Tess and Gant's No. 1 Mikulec, 320 ft. to NW and SW lines of tract in Wm. Barton Sur. ..... T.D. 1,340 ft; S.D.

BEE COUNTY

Nichols & Bruner's No. 1 Grover Heidenfels in John Bryan Sur., 891 ft. from S line, 1,950 ft. from E line of tract ..... T.D. 4,440 ft; S.D. in top of Jackson; showed gas at 4,365 ft.

W. C. Pool's No. 1 J. C. Wood, 150 ft. N along E line of H.&G.N. Sur. from NE cor. of Mary O'Connor lease, thence 450 ft. E at right angles ..... Rigged up.

BELL COUNTY

James Scoggins' No. 2 Warrick, 1,000 ft. to NW line, 2,400 ft. to NE line of 335-ac. tract in Ingram Sur. .. T.D. 1,481 ft; fishing.

BEXAR COUNTY

C. I. Albertson's No. 1 Hoch, 750 ft. from S line, 650 ft. from W line of 339-ac. tract, in Jose Maria Baerera Sur. ..... T.D. 600 ft.; gas blow out and bridged.

Amaden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... T.D. 1,135 ft; waiting for pump.

R. S. Boling's No. 1 J. J. Appelt, 150 ft. from N and W lines of tract in M. Uriegas Sur. ..... T.D. 250 ft; drlg.

Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trumsell's No. 1 Pruitt, 54 varas from E line of tract in Samuel McCollough Sur. ..... T.D. 170 ft; set surface csg.

Ethridge et al's No. 1 Bilhartz, 150 ft. to N and E lines of SE 100 acres of Bilhartz 360-ac. tract in F. Rolen Sur. ..... Moving in.

Rollin V. Hill, Sr.'s No. 1 Max Boeck, 1,700 ft. from N line, 2,700 ft. from E line of tract in J. R. Shepherd Sur. ..... T.D. 406 ft; standing.

M. L. Howard's (Allen Park) No. 1 James Watson, 12 miles S from San Antonio ..... T.D. 2,535 ft; taken over from Allen Park; plugging back 10 ft.

George O'Neill's No. 1 R. V. Sauer, Sur. 12 of A. Estrada grant ..... T.D. 500 ft; drlg.

O. L. Ray's No. 1 Thos. Dillon, 3,500 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county ..... T.D. 235 ft; drlg.

H. G. Venable's No. 2 F. Dulling, 1,500 ft. W of center of E line of tract ..... Location.

W. L. Whicker's No. 1 Bilhartz ..... Location N of No. 1 Strumberg, and W of No. 1 Carruth.

BLANCO COUNTY

H. T. McGee's No. 1 Forbes, cen. Sec. 167 ..... Spudded in.

C. L. McLeary's No. 1 Meier ..... T.D. 860 ft; S.D. in lime.

Hardy Sitton's No. 1 Luders, 150 ft. from S line, 1,420 ft. from E line of James Stanford Sur. ..... T.D. 700 ft; S.D.

CALDWELL COUNTY

Fred Adams' of Lockhart No. 1 Robertson, 450 ft. from N and W lines of Robertson 100-ac. tract in John Neill Sur. ..... Rigging up.

Louis Crouch's No. 1 Sue Neelan, 1,500 ft. to SE lines, 150 ft. from NE lines of 200-ac. tract in John B. Gray Sur. ..... T.D. 1,266 ft; drlg.

R. D. Herne's No. 1 M. C. and P. W. Jeffrey 136-ac. tract, 150 ft. from N and E lines of tract in James George Sur. ..... Set surface pipe, waiting for wtr.

R. L. Hope and Joe Cole's No. 1 M. August, 150 ft. from NE line, 165 ft. from NW line of tract in A. Floyd Sur. ..... T.D. 90 ft; drlg.

R. R. Thomas' No. 1 Alexander, 568 varas from NW lines, 334 varas from NE line of 158 acres in Spiller Sur. ..... T.D. 2,305 ft; testing Edwards.

DIMMITT COUNTY

Motes-Campbell's No. 1 Denton, 170 ft. from E line, 250 ft. from S line of Tracts 33 and 34, Sec. 60 .... T.D. 1,370 ft; waiting for big rig.

DUVAL COUNTY

Cowden et al's No. 1 State Bank of Alice, 209 ft. to S line, 1,450 ft. to W line of E. Valentine Sur. No. 26.. Steel derrick.

Huff & Kyle's No. 1 A. Roach, 865 ft. from E line, 45 ft. from S line of Blk. 7, Sur. No. 457 ..... T.D. 172 ft; no report.

Ed Leach et al's No. 1 C. J. Bain, 330 ft. to S line, 330 ft. to E line of NW SW of Sur. 264 ..... T.D. 250 ft; standing.

Magnolia Pet. Co.'s No. 1 Duval County Ranch Co., Sur. 208 ..... Derrick.

Newton et al's No. 1 Welder-Wood, 5,550 ft. from W line, 4,590 ft. from N line of Sur. 102 ..... T.D. 350 ft; drlg.

C. P. Scott's No. 1 J. W. Kidd, 990 ft. from N and E lines of SE of Sur. No. 56 ..... T.D. 2,264 ft; standing.

Smith & Capps' No. 3 Peters, 1,300 ft. E of No. 1 Peters in Sur. No. 178 ..... Spudded in.

Smith & Capps' No. 2 Peters, 990 ft. from W line, 330 ft. from N line of NW SW Sur. No. 176 ..... Rigging up.

Smith & Hunter's No. 1 Manuel Olivarez, 1,500 ft. SE of No. 1 Pena ..... Rigged up.

Wm. B. Stewart's No. 1 Duval County Ranch Co., 990 ft. to S and E lines, of NE of Sur. 362..... Drlg. wtr. well.

Wm. B. Stewart's No. 2 Duval County Ranch Co., 330 ft. from N and W lines of N¼ SW of Sur. 362..... T.D. 357 ft; drlg.

S.R.C. Oil Co.'s No. 1 Duval County Ranch Co., 150 ft from N line, 4,200 ft. from W line of Sur. 192..... Rigging up.

Sun Oil Co.'s No. 2 Duval County Ranch Co., 1,320 ft. to E line, 672 ft. to N line of Sur. 254 ..... T.D. 2,600 ft; abd.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Halff & Oppenheimer, 1,200 ft. from N line, 200 ft. from E line of W. F. Haisel Sur. ..... T.D. 6,312 ft; abd.

James E. Greenlee's No. 1 W. W. Burns, 613 vrs. to N line, 900 vrs. to W line of Antone Hutzler Sur. ..... Rigging up.

GILLESPIE COUNTY

Rod Lagra's No. 1 Stephen, 500 ft. from N and W lines of A.B.&M. Sur. No. 969 ..... Spudded in.

GUADALUPE COUNTY

B. E. Brock's No. 1 Ogletree, 1,600 ft. from W line, 450 ft. from S line of tract in Robert Smith Sur..... T.D. 2,240 ft; drlg.

Keene & Russell's No. 1 Lowman, 200 ft. from E line, 350 ft. from N line of tract in George Allen Sur. .... T.D. 380 ft; standing.

W. A. Scrutchin's No. 1 S. J. Lowman, 170 ft. from N line, 195 ft. from W line of 10-ac. tract, in Blk. 1, Sec. No. 1 of S. J. Barnes Sur. ..... T.D. 410 ft; standing.

O. R. Seagraves' No. 1 Krueger, 150 ft. to N and W lines of 88.75 acres in John G. King Sur. 15..... T.D. 2,587 ft; abd.

Smith's No. 1 Lowman, offsetting old test of Humble... T.D. 450 ft; standing.

Walton et al's No. 1 Dan Darling, 1,890 ft. from NW line, 1,198 ft. from SW line of Ben Fuqua Sur. ..... T.D. 2,921 ft; abd.

GOLIAD COUNTY

Hoffman & Gooch's No. 1 Fromme, 600 ft. from N and 1,200 ft. from W line of Peter B. Dexter Sur. ..... T.D. 2,470 ft; dropped until work is resumed.

GONZALES COUNTY

Antibus et al's No. 1 James, 6,350 ft. from N line, 1,300 ft. from E line of Mary A. Williams Sur. ..... T.D. 2,480 ft; S.D.

Edmiston & Kirby Pet. Co.'s No. 1 J. W. Ward, Jr., 300 ft. from N line, 833 ft. from W line of tract in Dan McKay Sur. ..... T.D. 1,592 ft.; standing.

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28-40 Penn Avenue **Pittsburgh, Pa.**

FULTON DUPLEX VACUUM REGULATOR

Luling O. & G. Co.'s No. 1 Gov. Hastings, 150 ft. to NE and SE lines of 58-ac. tract in Isaac Baker Sur., 1 mile south of Sample ..... T.D. 2,200 ft; abd.

HIDALGO COUNTY

Barrett-Kanelios' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 4,590 ft; standing.
Carl & Johnston's No. 1 Doughty, 187 ft. from S and E lines of Lot 11, Blk. 5 of Subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 1,475 ft; set csg.
Palm City Pet. Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. ..... T.D. 1,445 ft.; drlg.
Dayle L. Smith's No. 3 Daskam, SW part of county..... T.D. 1,706 ft; set csg.

JIM HOGG COUNTY

Cole Pet. Co.'s No. 1 W. Allen, 990 ft. to E line, 1,320 ft. to N line of Blk. 13, Randado grant ..... T.D. 3,634 ft; standing.

JIM WELLS COUNTY

Humble Oil & Ref. Co.'s No. 1 Fuhrkin, 1,117 ft. from N line, 450 ft. from W line of 150.77-ac. tract in Phillips Sacks Sur. ..... T.D. 4,930 ft.; drlg.
F. A. Lain's No. 1 Vernon Porter, 800 ft. from S line, 400 ft. from W line of 200-ac. tract in Sur. 25 ..... T.D. 3,611 ft.; standing.

KARNES COUNTY

W. R. Campbell's No. 1 E. C. Gilbert, C. Martinez Sur. .. Rigging up.
A. E. Edmiston's No. 1 G. W. Cross, 600 ft. from E line, 150 ft. from N line of tract in M. N. Reed Sur. ..... Spudded in and S.D.
Hindeman et al's No. 1 F. C. Weinert ..... T.D. 1,000 ft; drlg.
Tippett & Mull's No. 1 Smith, 8,500 ft. from N line, 200 ft. from E line of Francis Haskins Sur., 3½ miles E of Helena ..... T.D. 20 ft; no report.

KENDALL COUNTY

Dupree et al's No. 1 Hagg, 600 ft. to S line, 2,700 ft. to W line of tract, B.B.B.&C. Sur. 91..... Repairing rig.
Verland Trust's No. 2 Willie Werner, 1,400 ft. N and 150 ft. W of No. 1 P. B. Sterling's No. 1 Willie Werner ..... T.D. 970 ft; C.O.

KERR COUNTY

Van Duyn & Moore's No. 1 Nowlin, 2,000 ft. from E line, 2,100 ft. from N line of James R. Bettner Sur... T.D. 700 ft; drlg.
Verde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,928 in Hamilton Sur. ..... T.D. 118 ft.; standing.

KLEBERG COUNTY

Harris et al's No. 1 Dennett, 600 ft. from S line, 760 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Imp. Co. Subd. ..... T.D. 2,797 ft; waiting on D.S.
H. Carter's No. 1 R. H. Simmons, 150 ft. from S and W lines of tract in Sec. 7, King Sur. No. 3..... T.D. 3,305 ft.; standing.

LA SALLE COUNTY

Interstate Oil Industries, Inc.'s No. 1 J. F. Mayes, 600 ft. from S and W lines of Blk. 30, L.&G.N. Sur. No. 19 ..... T.D. 2,825 ft; standing.
Salt Lake's No. 1 May ..... T.D. 2,925 ft; standing.

LIVE OAK COUNTY

J. A. Harper's No. 2 fee, center of Blk. 40..... T.D. 968 ft; drlg.
Humble O. & R. Co.'s No. 1 Albert West, 4,000 ft. S of river, 150 ft. from NW line of tract in Thos. Hammond Sur. ..... Spudded in.
Homer T. Lamb's No. 1 J. T. Brown, 150 ft. from N line, 2,450 ft. from W line of 692-ac. tract in M. Hely Sur. ..... T.D. 875 ft; drlg.
Lain & House's No. 1 Richert, J. H. Gibson Sur. (Tract 33) ..... T.D. 1,300 ft; abd.
C. J. Webster Oil & Gas Co.'s No. 1 O. F. Akers, 100-ac. tract in T. Henry Sur. ..... T.D. 100 ft.; standing.

LEE COUNTY

Paton Bros.' No. 1-B Turner, 424 ft. from NW line, 275 ft. from NE line of 51.9-ac. tract in David Hudson Sur. ..... T.D. 2,540 ft; drlg.
Sayre Oil Co.'s No. 1 Rister, 150 ft. from S and E lines of N 100-ac. Rister tract in J. V. Jamison Sur... Derrick.

MAVERICK COUNTY

B. R. Garrett and Mason Altgelt's No. 1 J. D. Beck, 730 ft. N of S line, 2,778 ft. W of E line, about 1½ miles north of Eagle Pass on Del Rio Highway, Sur. 44 ..... T.D. 150 ft; drlg.
H. E. Lewis' No. 1 Kifurt, 640 varas E of river, 140 varas from S line of Poindexter & Burns Sur. 31 .... T.D. 500 ft; drlg.

McMULLEN COUNTY

Buchanan, Schoolfield & Frasher's No. 1 Pursch, 330 ft. to N and W lines of Sur. 115 ..... T.D. 2,537 ft; abd.
French Oil Corp.'s No. 1 Shiner ..... Derrick.
Gant & Teas' No. 1 E. R. Hagist, 330 ft. from N and W lines of SW of H.&T.C. No. 34 Sur. ..... Rigging up.
Jaqua & Crow's No. 1 Hagist, 330 ft. from N and W lines of R. W. Mills Sur. No. 467 ..... Spudded in; set surface csg.
Chas. B. Loftin's No. 1 R. H. Brown, in R. H. Brown Sur. No. 8 ..... T.D. 875 ft; drlg.
Greenwood & Calvert's No. 1 G. A. Booth, 3,200 ft. from NW line, 7,000 ft. from SW line of 4 miles SW from Calliham ..... Spudded in.
Plymouth Oil Co.'s No. 1 Miles Ranch, Sur. 149 ..... Making location.
C. C. Shumway's No. 1 Shiner, 400 ft. from W line, 200 ft. from N line of Blk. 46 of Shumway Subd. of Shiner ranch ..... T.D. 1,650 ft; drlg.
S. R. C. Oil Co.'s No. 1 La Chusa, 1,320 ft. to S and E lines of Sur. 47 ..... Spudded in; S.D.

MEDINA COUNTY

James E. Greenlee's No. 1 Feasler, 600 ft. from N line and 2,400 ft. from E line of L. G. Harrison Sur. No. 799 ..... T.D. 1,543 ft; standing.
Moore, Richey & Clifton's No. 1 Reichert's, 150 ft. from N and W lines of tract, SW of Lacoste ..... Abd.
F. Ryal's No. 1 G. Martin, 150 ft. from S and W lines of Blk. 368, H. Castro Sur. ..... Abd.

MILAM COUNTY

Bridwell's No. 1 Terry, 1,100 ft. from N line, 300 ft. from W line of tract in Jose Leal Sur. ..... T.D. 2,460 ft; S.D.
Clark et al's No. 1 Hoppe, 450 ft. to NE lines, 450 ft. to SE lines of E. Hoppe 40-ac. tract in Juan Jose Acosta Sur. ..... T.D. 103 ft; standing.
Ed Clark's No. 1 Pritchard, 1,100 ft. to SE lines, 700 ft. to NE lines of 163-ac. tract in F. Ernst Sur., 6¼ miles NE Thorndale ..... Rigged up.
Huff & Hoch's No. 1 Lee ..... T.D. 1,492 ft; abd.
Marvel Wells, Inc.'s No. 1 fee, center of 5-ac. tract out of Wm. Henits 138.3-ac. tract in J. J. Liendo Sur.. T.D. 2,435 ft; abd.

NUECES COUNTY

Miller et al's No. 1 Harney, 200 ft. from NW line, 1,550 ft. from SW line of 445-ac. tract in Gregoria Farias Sur. ..... Moving in tools.
George Noble's No. 1 Homeland Syndicate, 300 ft. to SE and SW lines of Blk. 2, Sec. 12, 5 miles S Corpus Christi ..... Location.

STARR COUNTY

Adams & Medest's No. 1 Wood, 2,070 ft. from W line of Porcion 84, Camargo, and 1,472 ft. N of Missouri Pacific Railroad ..... Spudded in.
W. P. Chancellor's No. 1 A. Guerra, 26,000 ft. from S line, 2,600 ft. from E line of Share 6, of San Jose grant ..... T.D. 920 ft; standing.
B.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,526 ft; reaming to set csg.
Clark & Johnson's No. 1 Doughty, 187 ft. from S and E lines of Lot 11, Blk. 5, subd. of Los Indios ranch.. Moving in tools.
Coastal O. & G. Co.'s No. 1 Kelsey Bass, 448 ft. to N line, 150 ft. to W line of Tract 52, Sur. 2, Porcion 86.. T.D. 1,860 ft.; changing to heavier rig.
F. R. Cooper's No. 1 J. M. Martinez, 150 ft. to S and E lines of A.B.&M. Sur. No. 135 ..... T.D. 310 ft; drlg.
Dawson et al's No. 3 Margo, 5,560 ft. from S line, 600 ft. from W line of Share 3-B, Por. 70, Jurisdiction Mier ..... T.D. 381 ft; abd.
John J. Erickson's No. 1 J. B. Brinton, 341 ft. from W line, 271 ft. from S line of Share 60, Partition of Porciones 58 and 59, Camargo ..... Location.
Four-In-One Oil Synd.'s (J. E. Waldron) No. 1 Marks Estate, 200 ft. SW of center of Sur. No. 483 (in Blk. 10) ..... Spudded in.
Goodwin & Yantis' No. 1 Walker, 450 ft. SE of W line of Isabel Lopez property in Sur. 767 ..... T.D. 824 ft; drlg.; reported abt in error.
Goodwin & Yates' No. 1 Kelsey Bass, 150 ft. to N and W lines of Blk. 45, Sur. 2, Por. 86 ..... Location.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE of NW of Sur. No. 344 ..... T.D. 1,928 ft; drlg.
Great Plains Oil Co.'s No. 2 Sanchez, 2,050 ft. to S line, 1,645 ft. from most westerly W line of Sur. 344 T.D. 500 ft; drlg.
Jeffries and Lambeth Drilling Co.'s No. 1 Starr County Cattle Co., 11,572 ft. from N line, 2,490 ft. from E line of Porcion 89, Jurisdiction of Camargo ..... T.D. 1,860 ft; drlg.
Boyd C. Jones' No. 1 Garza, 2,407 ft. from N and E lines of Share 26, Part. of Porciona 67-72, Jurisdiction of Mier ..... T.D. 560 ft; standing.
LaJoya Oil & Gas Co., in Porcion 39, NE part of county.. Location.
A. C. McGahhey's No. 1 Fernandes Bros., 1,800 ft. from W line, three-quarters of a mile from Rio Grande River, in Porcion 99, Jurisdiction of Camargo ..... T.D. 180 ft.; drlg.
D. A. Miller's No. 1 Madrigal, 4,827 ft. to N line, 1,987 ft. to E line of Share 15, Porciona 67, 72, 1 mile NE of Roma ..... T.D. 380 ft; standing.
Percy Brenton's No. 1 Starr County Cattle Co., 150 ft. from W line of Por. 89, 150 ft. north of Highway No. 4, Camargo Sur. ..... Using spudder to start.
John Pope, trustee's No. 2 H. Gonzales, 150 ft. W of cen. of E line of Sur. No. 339 ..... Spudded in.
J. W. Seaward's No. 1 F. Dawson, 495 ft. from W line, 240 ft. from S line of tract in Blk. 6, Share 3-B of Porcion No. 70 ..... Location.
George Stobaugh's No. 1 Seabury et al, 150 ft. from S and W lines of Porcion 107 ..... T.D. 278 ft.; no report.
Travelers Oil Co.'s No. 1 C. Ramos, 2,000 ft. from SW lines, 2,640 ft. from NW lines of Sur. 150..... Derrick.

TRAVIS COUNTY

J. L. Collins & Co.'s No. 1 John Carlson, 630 ft. to NE lines, 1,570 ft. from SE lines of 177-ac. tract in M. W. Smith Sur. ..... T.D. 1,500 ft; S.D.
Franklin et al's No. 1 Reimer, 1,200 ft. from SE line, 1,400 ft. from most southerly SW line of Sur. 35 .. T.D. 312 ft; abd.
Fritz Fuch's No. 2 Wm. Smith, 150 ft. from NE line, 750 ft. from NW line of N 113 ac. in L. Kimbro Sur.. T.D. 760 ft; abd.
Robinson et al's No. 1 O. L. Brady, 155 ft. to N line, 300 ft. to W line, McMillan Sur. ..... Location.
Watson et al's No. 1 Maggie Kee Brady, 850 vrs. to NW line, 54 vrs. to NE line of Elkins McMillan Sur. ..... T.D. 470 ft; drlg. lime.

UVALDE COUNTY

J. V. Scoggin's No. 1 Olive Henry, 1,100 ft. from N and E lines of tract in Hugh Kilgore Sur. ..... T.D. 670 ft.; S.D.

VICTORIA COUNTY

John F. Camp's No. 1 Mrs. Etta Terrell, 3½ miles SW from Victoria ..... Gulf and Stoneleigh O. & G. Co. interested.

WEBB COUNTY

J. W. Edwards' No. 1 M. D. Slator, 1,320 ft. to NE and NW lines of Blk. 72, Slator Subd. of J. V. Borrego grant ..... T.D. 3,190 ft; drlg.

WILLIAMSON COUNTY

McLean et al's No. 2 R. C. Miller, 800 ft. to S line, 150 ft. to W line of tract in B. Manlove Sur. ..... T.D. 1,669 ft; S.D.
E. F. Smith's No. 1 H. C. Braker, 1,600 ft. to SW lines, 900 ft. to NW lines of E. J. Mahan Sur. ..... T.D. 613 ft.; S.D.
R. S. Wilson's No. 1 Gray ..... T.D. 1,140 ft; treating with acid.

ZAPATA COUNTY

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 925 ft; drlg.
Donohoo et al's No. 1-A Garcia, 150 ft. from NE and SE lines of Blk. 7 of Subd. of 700-ac. of Share A, Charco Redondo grant ..... T.D. 1,143 ft; abd.
T. J. Murray's No. 1 R. Vela, 285 ft. from NE line, 158 ft. from SE line of Blk. 145, Doty Subd., Share 4, El Grullo grant ..... Rigging up.
A. C. Savey et al's No. 1 Flores, 180 ft. from NW line, 206 ft. from NE line of Blk. 3, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... Location.
S. R. C. Oil Co.'s No. 1 T. Trevino, 660 ft. to S and E lines of Blk. 5, Sur. 40 ..... T.D. 1,695 ft; tested gas; setting csg.

ZAVALA COUNTY

Adair & Daniel's No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No .13.. T.D. 3,920 ft; standing.

Southwest Texas Proven Areas

Week Ending February 11

RIDDLE POOL—BASTROP COUNTY

Company, well, farm name, section and block— Remarks:

Ogden & Reed's No. 5 Riddle, 600 ft. S and E of No. 1 Riddle in 94.5-ac. tract in Joshua Gray Sur. ..... Rigging up.
Ogden & Reed's No. 2 J. W. Mears, 600 ft. W of No. 1 Leach Sur. ..... Location.
Ogden & Reed's No. 3 Riddle, 600 ft. N of No. 1, J. Gray Sur. ..... Location.
Ogden & Reed's No. 3 Riddle, 600 ft. N of No. 2, J. Gray Sur. ..... Location.
Ogden & Reed's No. 4 Riddle, 600 ft. S of No. 1, J. Gray Sur. ..... Location.
Ogden & Reed's No. 5 Riddle, 600 ft. E of No. 3, J. Gray Sur. ..... Location.
Ogden & Reed's No. 6 Riddle, 600 ft. E of No. 2, J. Gray Sur. ..... Location.
Ogden & Reed's No. 7 Riddle, 600 ft. E of No. 1, J. Gray Sur. ..... Location.

NORMANNA POOL—BEE COUNTY

Gulf Coast Oil Co.'s No. 5 Hicks, 600 ft. E of Nichols Oil Co.'s No. 2 Hicks ..... T.D. 4,060 ft; coring.

PETTUS FIELD—BEE COUNTY

J. L. Mauldin's No. 3 fee, 300 ft. S of No. 1 fee, George A. Kerr Sur. ..... T.D. 3,881 ft; drlg. in.
Slick-Seeligson's No. 8 Ray, 300 ft. from SE line, 300 ft. from NE line of company lease in George A. Kerr Sur. ..... T.D. 3,901 ft; comp. 200 bbls.

TULETA POOL—BEE COUNTY

Taber et al's No. 1 Harris, 150 ft. from N and W lines of Blk. 13, Sec. 13, Ragsley Subd. of Uranga grant .. T.D. 4,328 ft; P.B.; perforating csg. at 4,110-30 ft.
The Texas Co.'s No. 2 Cox, 330 ft. from S and E of SE of SW Sec. 2, Ragsley Subd. of Uranga tract.... Location.

GAS RIDGE—BEXAR COUNTY

American Gas Co.'s No. 5 W. H. Kennon, 1,750 ft. from S line, 2,000 ft. from E line of 400-acre tract in Maria F. Rodriguez Sur ..... T.D. 2,230 ft.; standing.

ECKERT POOL—BEXAR COUNTY

Alamo Nat. Gas Co.'s No. 3 J. H. Gembler, 180 ft. from N and E lines of tract in A. Manachaca Sur. 51. T.D. 1,216 ft.; standing.

Bowman & Richards' No. 3 Halbardier, 1,920 ft. to E along N line of Jose M. Perez Sur. from W of NW cor., 150 ft. S of N line of same survey ..... Location.
Charles P. Cartter's No. 2 Gembler ..... Rigging up.
C. W. Richards' No. 4 Halbardier, J. M. Perez Sur. .... T.D. 600 ft; drlg.
F. H. Eckert & Son's No. 1 A. C. Brehm, 150 ft. from S and E lines of tract in P. L. Bouquor Sur. ..... T.D. 705 ft; comp. 10 bbls. on pump.
F. H. Eckert & Son's No. 2 A. C. Brehm, 150 ft. from E line, 310 ft. N of No. 1 ..... T.D. 500 ft; drlg.
F. H. Eckert's No. 6 Louis Brehm, 320 ft. S of No. 5, 150 ft. to S line, 480 ft. to E line, Boquar Sur. ..... Spudded in and S.D.
Gatlin Oil Co.'s No. 16 I. A. Beck, 150 ft. from S and E lines of tract in J. Montes Sur. ..... T.D. 723 ft; set csg.
D. C. Pegg's No. 2 Walter Gembler, 150 ft. to S line, 150 ft. to E line of Walter Gembler 20-ac., Manachaca Sur. No. 51 ..... T.D. 702 ft; drlg. plug.
W. R. Swearingen's No. 11 Halbardier, 400 ft. SE of No. 10 Halbardier, J. F. Peres Sur. ..... Location.

DUNLAP POOL—CALDWELL COUNTY

Bob Rose's No. 3-B Walker 46-ac. tract, 360 ft. from NW line, 500 ft. from SW line of tract in Solomon Seal Sur. ..... T.D. 2,372 ft.; waiting for pump.

SALT FLATS—CALDWELL COUNTY

Hickman et al's No. 1 C. A. Dickerson, 150 ft. N of cen. of S line of tract in John D. Rains Sur. ..... T.D. 2,363 ft; S.D.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

R. B. Byrd's No. 1-A Wright, 330 ft. from N and W lines of Sur. No. 101 ..... T.D. 310 ft; drlg.
R. B. Byrd's No. 4 Wright, 1,056 ft. from W line, 330 ft. from S line of Sur. No. 101 ..... T.D. 2,332 ft; abd.
R. B. Byrd's No. 5 Wright, 330 ft. from N line, 1,470 ft. from W line of Sur. 101 ..... Spudded in.
Brogan et al's No. 1 Miller, 144 ft. from E line, 860 ft. from S line of Sur. No. 55 ..... T.D. 2,324 ft; abd.
Central Producers' No. 6 Tuck-Johnson, 330 ft. to N and E lines of SW SW of Sur. 42 ..... Rigging up.
H. H. Coffield's No. 5 H. Wendt, 810 ft. to E line, 330 ft. to S line, SE NE Sur. 45 ..... Derrick blew down.
W. T. Daniels' No. 1 F. J. Smith, 330 ft. from N and W lines of SW of NE of Sur. No. 46 ..... T.D. 900 ft; waiting on boiler.
Highland Oil Co.'s No. 7 Lundvall, 330 ft. to N and E lines of S½ of NE of Sur. 42 ..... Location.
Highland Oil Co.'s No. 8 Lundvall, 330 ft. to S and E lines of S½ of NE of Sur. 42 ..... Location.
Magnolia Pet. Co.'s No. 5 J. V. Allen, 330 ft. from S line, 990 ft. from W line of S½ SE of Sur. No. 42.... Rigging up.
Magnolia Pet. Co.'s No. 6 J. V. Allen, 330 ft. from S line, 990 ft. from E line of S of SE of Sur. No. 42... Location.
Magnolia Pet. Co.'s No. 4 B. White, 330 ft. from N line, 990 ft. from W line of N NW Sur. 64 ..... Location.
Magnolia Pet. Co.'s No. 1 Hahl-Weiderkehr, 330 ft. to S and E lines of N½ NW of Sur. 45 ..... T.D. 2,240 ft; comp. 90 bbls. dly.
Navarro Oil Co.'s No. 1 C. W. Hahl, 370 ft. from S line, 335 ft. from E line of SW of No. 360 Sur. ..... Rigging up.
Reynosa Oil Corp.'s No. 4 C. W. Hahl, 330 ft. from S line, 990 ft. from E line of N½ NE of No. 42 Sur. .. T.D. 2,293 ft; comp. 45 bbls. hrly.
San Diego Oil Corp.'s No. 5 E. Riley, 330 ft. from S and W lines of NW NW of Sur. No. 46 ..... Location.
San Diego Oil Corp.'s No. 2 L. Bennett, 500 ft. N of No. 1, 250 ft. to W line of SE SW of Sur. No. 44.... Location.
San Diego O. & G. Co.'s No. 2 Heller, 200 ft. to S and W lines of SW SE of Sur. 44 ..... Location.
The Texas Co.'s No. 3 D. J. Freer, N½ NE of Sur. 45.. T.D. 2,261 ft; comp. 150 bbls. dly.
The Texas Co.'s No. 4 D. J. Freer, 330 ft. to S line, 990 ft. to W line of N½ NE of Sur. 45 ..... T.D. 2,279 ft; comp. 9 bbls. hrly.
The Texas Co.'s No. 6 Tuck Johnson, 990 ft. from S and E lines of N½ SW of No. 42 Sur. ..... T.D. 2,255 ft; comp. gas well.
Whisenant et al's No. 5 Hahl, 330 ft. to N and W lines of SW SW of Sur. 44 ..... Location.
Wilkins Seacoard's No. 1 Lundell, 330 ft. to S and E lines of NW of NE of Sur. 60 ..... T.D. 2,352 ft; abd.
Windsor Oil Co.'s No. 3 Cummings, 330 ft. from N line, 330 ft. from E line, E½ NW NE Sur. 44 ..... T.D. 2,250 ft; set csg.

SOUTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Humble O. & R. Co.'s No. 11 Paul White, 990 ft. from S line, 1,320 ft. from E line of Sur. No. 249 ..... Derrick.

BARNOSA FIELD—DUVAL COUNTY

Atravasada Oil Co.'s No. 1 P. Henrandez, 330 ft. to NW and SW lines of E half of Sur. 574 ..... T.D. 1,714 ft; standing.
Sun Oil Co.'s No. 2 Cuellar (Cano), 150 ft. from SW and SE lines of E quarter of Sur. No. 576..... Rigged up.
The Texas Co.'s No. 3-A Duval County Ranch Co., 1,053 ft. to SE lines, 330 ft. to SW lines of N¼ of Sur. 574 ..... T.D. 2,690 ft; drlg.

DARST CREEK FIELD—GUADALUPE COUNTY

John F. Camp's No. 3 Sue Denman, 1,025 ft. S of road, 540 ft. to E line of tract in Wm. Arrington Sur. .... T.D. 3,383 ft; reaming.

SAL-MAR FIELD—GUADALUPE COUNTY

A. H. Barnholl's No. 1 Chas. Woehler, 300 ft. to N and E lines of 138-ac. tract in G. W. Williams Sur. No. 46.. T.D. 2,387 ft; abd.
A. W. Wormser's No. 1 Harris, 150 ft. from N line of tract and 150 ft. E of creek in Green Dewitt Sur..... Location abd.

HORD'S CREEK—GOLIAD COUNTY

Sam Vanderweise' No. 1 Kaufman, 3,700 ft. NE of NE line of B. Merrill Sur., 300 ft. NW of NW line of Vincente Ramos Sur. ..... T.D. 4,440 ft; drlg.

ALWORTH FIELD—JIM HOGG COUNTY

H. C. Cate's No. 1 B. J. Leyendecker, 70 ft. to E line, 320 ft. to S line, Blk. 10, Sur. 143 ..... T.D. 1,132 ft; standing.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen (first carried as Hughes & Long's No. 1 Wade), Cen. Blk. 2, Wade ranch ..... Rig on ground.
Larero Gas & Pet. Co.'s No. 3 Wade, 2,000 ft. S, 33 deg. W of No. 2 Wade, thence 1,970 ft. N, 57 deg. W.... Material on ground.

WERNER POOL—KERR COUNTY

Sterling O. & G. Co.'s No. 2 Willie Werner, 470 ft. N, 150 ft. W of No. 1 ..... T.D. 970 ft; abd.; hole lost.

JACOB POOL—McMULLEN COUNTY

Lefevre & Spice's No. 1 Jacob, 2,666 ft. to S line, 1,260 ft. to E line of J. Poitevent Sur. 53 ..... Location.
Longhorn Oil Co.'s No. 2-A Lark, 660 ft. N of No. 1-A Lark ..... T.D. 1,056 ft; standing.
Tarver & Nance's No. 1 J. Dickinson Farm Mtg. Co., 150 ft. to E line of McMullen County, 200 ft. to NW lines of tract, or 200 ft. SE of SE line of Campbell Berry Sur. ..... T.D. 750 ft; changing to rotary rig.
Tarver & Nance's No. 2 Dickson Farm Mrtg. Co., 700 ft. due west of No. 1 ..... T.D. 150 ft; drlg.

ADAMS FIELD—MEDINA COUNTY

Yantis Oil Co.'s No. 1-A Adams, 50 ft. from No. 1 ..... T.D. 680 ft.; S.D.

SAXET FIELD—NUECES COUNTY

Gibson Oil Co.'s No. 1 F. J. Smith, 330 ft. to S and E lines of Shepherd Farm Lots No. 35 .. T.D. 974 ft; drlg.
Gulf Coast Oil Co.'s No. 2 Perkins & Lagasse, 650 ft. from N line, 990 ft. from E line, Sec. 36, Shepherd farm lots ..... T.D. 5,060 ft; plugging back to 4,500 ft.
Gulf Port Oil Co.'s No. 1 Isencee, 330 ft. to N and W lines of 300-ac. tract in C. Land Sur. ..... Location.
Gulf Port Oil Co.'s No. 3 Frank Bliss, 1,699 ft. to N line, 350 ft. to E line of 235-ac. tract in J. W. Stevens Sur. No. 406 ..... T.D. 4,059 ft; S.D.
Gulf Port Oil Co.'s No. 2 Humphreys, 115 ft. from N line, 330 ft. from W line of lease (8 offset to No. 1 Gibson, Rand Morgan Sur.) ..... Location.
Houston Oil Co.'s No. 2 McGregor, 600 ft. W of No. 1.... T.D. 4,876 ft; set csg.
Shasta Oil Co.'s No. 1 Quiros, 330 ft. from N and E lines of Lot 39, Sur. No. 911 ..... T.D. 3,485 ft; drlg.
Texas Coast Oil Co.'s No. 1 Clark-Morgan, 330 ft. from S and E lines of N½ of Sur. No. 406..... T.D. 3,795 ft; drlg.
Titus & Calloway's No. 3 Lagasse, 330 ft. from N and W lines of E half of Blk. 25 of Shepherd farm lots.. Derrick.
Titus & Calloway's No. 1 Ran Morgan, 330 ft. from N and E lines of W 80 acres of E 160 acres of N half of 423 acres of B.S.&F. Sur. No. 403 ..... Derrick.
Violet Oil Co.'s No. 1 McGregor-Polk ..... T.D. 4,081 ft; coring hard sand.

REFUGIO POOL—REFUGIO COUNTY

Edwin M. Jones' No. 4 Mitchell, 900 ft. S of No. 1-B Mitchell ..... Location.

MATHIS POOL—SAN PATRICIO COUNTY

Geo. W. Scruggs' No. 1 Collins ..... T.D. 400 ft; drlg.

WHITE POINT FIELD—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 19 Rachel ..... T.D. 4,922 ft; drlg. ahead.

LOS OLMOS POOL—STARR COUNTY

Austin et al's No. 1 Kelsey Bass, 150 ft. to N and W lines of NW of NW of Sur. 4, Porcions 75, 76, 77, Jurisdiction of Camargo ..... Rigging up.
Brooks O. & G. Co.'s No. 2 Kelsey Bass, 450 ft. from N line, 150 ft. from E line of NW SW Sec. 6, Subd. of Porcions 75, 76, 77, Camargo ..... T.D. 437 ft; 6,000,000 ft. gas.
Brooks O. & G. Co.'s No. 1 Kelsey Bass, 150 ft. from N and E lines of NW SW Sec. 6, Pors. 75, 76, 77, jurisdiction Camargo ..... T.D. 435 ft; comp. 8 bbls. daily.
Columbia Royalty Co.'s No. 1 Kelsey Bass, 150 ft. from N and E lines of Sur. 6, Sub. of Porcs. 75, 76 77, Jurisdiction Camargo ..... Location.
Floyd-Doyno-Tolands' No. 1 Seabury, 340 ft. from S line of Doyno 80 acres, Share 5, Por. 75, Camargo Sur.. T.D. 432 ft; drlg.
Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. to S and E lines of SE of NW of Sur. 3, Porcions 75, 76, 77.... Rigging up.
Goodwin & Yantis' No. 1 Seabury, 150 ft. from N and E lines of N 80 ac. of Share 5, W portion of Porcion 75, Camargo ..... T.D. 934 ft; bailing oil; bldg. storage.
J. E. Harper & Co.'s No. 1 E. Salinas, 150 ft. to S and E lines of 40-ac. tract in Share 16, Por. 75 ..... T.D. 378 ft; abd.
Hooks & Weaver's No. 13 Kelsey Bass, center of E¾ of NE SW Sec. 6, Pors. 75, 76, 77, jurisdiction Camargo ..... T.D. 483 ft; 20 bbls. daily.
Hooks & Weaver's No. 14 Kelsey Bass, 150 ft. from E line, 250 ft. from S line, NE SW Sec. 6, Porcions 75, 76, 77, Camargo ..... T.D. 600 ft; drlg.
Keck & Keane's No. 3 Kelsey Bass, 150 ft. from N and W lines of NE NE Sec. 6 of Subd. of Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 1,040 ft; abd.
Los Olmos Oil & Gas Co.'s No. 42 Kelsey Bass, 450 ft. from E line, 420 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo ..... T.D. 210 ft.; drlg.
Los Olmos Oil & Gas Co.'s No. 44 Kelsey Bass, 200 ft. from E line, 120 ft. from N line of SE of NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Spudded in.
Los Olmos Oil & Gas Co.'s No. 45 Kelsey Bass, 500 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.
Los Olmos Oil & Gas Co.'s No. 46 Kelsey Bass, 800 ft. from E line, 120 ft. from N line of SE NW Sec. 7, Porcions 75, 76, 77, Camargo ..... Location.
Los Olmos O. & G. Co.'s No. 47 Kelsey Bass, 200 ft. to E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 48 Kelsey Bass, 425 ft. to E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 49 Kelsey Bass, 650 ft. from E line, 105 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 51 Kelsey Bass, 425 ft. to E line, 330 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 52 Kelsey Bass, 650 ft. to E line, 330 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 54 Kelsey Bass, 475 ft. to E line, 555 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
Los Olmos O. & G. Co.'s No. 55 Kelsey Bass, 700 ft. to E line, 555 ft. to S line of NE NW Sur. 7, Por. 75-76-77 ..... Location.
R. A. Mitchell's No. 1 Kelsey Bass, 150 ft. from S and W lines of NW SE of Sur. 8, Subd. Porcions 75, 76, 77, Jurisdiction of Camargo ..... T.D. 310 ft; drlg.
C. L. Sinclair's No. 2 Kelsey Bass, 150 ft. to S line, 1,050 ft. to W line of SW of SW of Sur. 5, Porcions 75, 76, 77 ..... T.D. 602 ft.; fishing.

RIO GRANDE CITY POOL—STARR COUNTY

Chiquita Oil Co.'s No. 1 Jones & Doyno, 870 ft. to W line, 150 ft. to N line of Blk. 5, Share A-77, Por. 81, Camargo ..... T.D. 1,480 ft; drilled plug.
Howard Stagg's No. 1 Ida Davis, 150 ft. from S and W lines of Blk. 16, Tract 4, Porcs. 18, Camargo.... Location.
Mundy and others' No. 1 Salinos, 190 ft. to S and W lines of Blk. 12, Share C-38, Porcions 80 and 81, Camargo ..... T.D. 1,460 ft.; standing.

AVIATOR POOL—WEBB COUNTY

Nueces Dev. Co.'s No. 1 Puig, 150 ft. from W line, 260 ft. from N line of Blk. 12, Edington Subd., Abercas Grant Sur. ..... T.D. 582 ft; drlg.

LAUREL POOL—WEBB COUNTY

L. M. Kaiser's No. 1 Garcia & Villareal, 150 ft. to N and W lines of Blk. 2, Sur. 1,099 ..... T.D. 2,210 ft; set csg.
Newton Drilling Co.'s No. 1 A. Garcia, 2,550 ft. from S line, 2,340 ft. from W line of Sur. No. 52, 2 miles SW of Carolina Texas Field ..... T.D. 2,250 ft; drlg.
G. B. Parr's No. 1 Gates et al, 330 ft. to S and E lines of Blk. 3, Sur. 272 ..... T.D. 2,142 ft; set csg.
Reward Oil Co.'s No. 2 B. Rosenberg (Laurel), 306 ft. from S line, 25 ft. from E line of Blk. 15, Sur. 271... T.D. 2,203 ft; comp. 150 bbls. dly.
Reward Oil Co.'s No. 1 Garcia & Villareal Co., 330 ft. from N and W lines of NW SE of Sur. 1,100..... Location.
R. R. R. Oil Co.'s No. 1 Garcia & Villareal, 330 ft. to N and W lines of Blk. 11, Sur. 338 ..... Location.
Sal-Mar Oil Corp.'s No. 1 Vela, 660 ft. from NW and SW lines of Blk. 16, Sur. No. 1,011 ..... Location.
Smith & Story's (Wolcott & Rehmet) No. 1 Sarah Lloyd, 600 ft. from W line, 150 ft. from S line of SW SE (Blk. 14), Sur. 23 ..... T.D. 1,380 ft; drlg.
South Texas Oil Co.'s No. 1 Garcia & Gates, Sur. 272... T.D. 1,000 ft; drlg.
South Texas Oil Co.'s No. 1 Garcia & Villareal, Sur. 1,099.. Location.
Whisenant & Trenchard's No. 1 Duval County Ranch Co., 150 ft. to N and W lines, Blk. 17, Zapata County School Lands, Sur. 101 ..... Spudded in.

MOCA POOL—WEBB COUNTY

S. R. C. Oil Co.'s No. 1 Duval County Ranch Co., 1,069 ft. N, 250 ft. E from Moca Oil Co.'s No. 1 in League 3 of Zapata County school land ..... Location.
Whisenant & Trenchard's No. 1 Duval County Ranch Co., 150 ft. from N and W lines of Blk. 17, Duval County school land, Sur. No. 101 ..... T.D. 850 ft; drlg.

ESCOBAS POOL—ZAPATA COUNTY

Lefevre et al's No. 1 M. Garza Hrs., 330 ft. from NW and SW lines of Blk. 53, C. A. Douglas Subd., Zerro ranch, Comitas Grant Sur. ..... Spudded in.
Norden & Morris' No. 5 Pedro de los Santos, 240 ft. from NE line, 350 ft. from SE line of Share 6, Comitas Grant Sur. ..... T.D. 1,302 ft; comp. 10 bbls.
The Texas Co.'s No. 17 Measles ..... Making location.
The Texas Co.'s No. 19 Measles, 450 ft. N 74 deg. E of No. 15 Cerrito Blanco grant ..... T.D. 450 ft.; drlg.

PERSONAL PARAGRAPHS

J. D. Curtin, of the Mid-Continent Petroleum Corporation, Tulsa, is in Chicago.

• • •

E. A. Koester and Everett Bradley, consulting geologists, Wichita, Kans., were in Tulsa for a few days last week.

• • •

L. M. Trawick, of Price-Trawick, Stroud, Okla., makers of the P.-T. kickoff unit, was in Tulsa on business last week.

• • •

C. W. Sparr, president of the Jupiter Oil Company, has returned to his Casper, Wyo., offices from Stanford and Abilene, Tex.

• • •

Ward Blodget, for a number of years assistant general manager of the Chanslor-Canfield Midway Oil Company, recently resigned from that position.

• • •

John D. Thomas, geologist, of Slick-Urschel, Inc., has been made a director of the Oklahoma City Chamber of Commerce, succeeding Charles F. Urschel, resigned.

• • •

Wallace H. Collins, petroleum engineer, has been made production superintendent of the Shell Petroleum Corporation, succeeding the late S. R. Gilland, who died recently.

• • •

A. J. Ahlum, secretary of Crystal Oil Refining Corporation, has returned to Shreveport, La., after an extended business trip to Washington, Philadelphia and New York City.

• • •

A. V. Wadsworth, vice president and general manager, Wescott Valve Company, East St. Louis, Ill., has been a visitor in Tulsa and Oklahoma points during the past two weeks.

• • •

W. H. Connor and E. G. Harvey, representatives of Black, Sivalls & Bryson, Inc., with Casper, Wyo., headquarters, are on a business trip through northern Wyoming and southern Montana.

• • •

Earl Ticknor, manager of the Magnolia tank farm at Midland, Tex., was elected a director of the Midland Chamber of Commerce, and Allen J. Watts, independent operator, was re-elected.

• • •

LaPrade Stewart, formerly of Casper, Wyo., when he was identified with one of the major pipe line companies, is now resident engineer at Cut Bank, Mont., for the Santa Rita Oil & Gas Company.

• • •

H. H. (Hal) Anderson was recently promoted from assistant to President van der Woude of the Shell Petroleum Corporation, to vice president in a general capacity with headquarters in St. Louis, Mo.

• • •

"Boots" Kennedye, of the Kennedye Oil Field Devices Company, St. Louis, Mo., well known for his inventions in the production end of the industry, stopped off in Tulsa en route to the Gulf Coast on business.

• • •

Dr. Frederick H. Lahee, with the Sun Oil Company at Dallas, Tex., and president of the American Association of Petroleum Geologists, spoke at the meeting of the West Texas Geological Society in San Angelo.

• • •

W. E. Hogan, field manager for the Argo Oil Company at Lance Creek, and H. W. Barner, field manager for that company at Mule Creek, were in Casper, Wyo., conferring with M. T. Rathvon, superintendent of operations.

• • •

C. J. McKeever, special export representative of the Union Oil Company at San Francisco, Calif., for the second time in his golfing career recently made a hole-in-one at the El Camino Golf Course at San Mateo, Calif. This required a drive of 190 yards.

Frank A. Herald, consulting geologist, Fort Worth, Tex., is in New York City on professional business.

• • •

A. J. Pfister, of the Akin Gasoline Company, with Mrs. Pfister, is taking a rest at Hot Springs, Ark.

• • •

W. H. Rodman has been appointed assistant secretary of the Cypress Petroleum Company, which maintains offices in Los Angeles, Calif.

• • •

Harry J. Wright, consulting geologist and petroleum engineer, of Tulsa, has just returned from a professional trip to the oil fields of Michigan.

• • •

V. R. G. Wilbur and Sam W. Small have been elected treasurer and secretary, respectively, of the Independent Petroleum Association of California.

Men of the Industry

R. B. KELLY

R. B. Kelly, who was promoted to assistant manager of the Texas production division of the Pure Oil Company, July 1, 1932, has been one of the most active engineers on American Petroleum Institute committees and is still connected with various committees of that organization.

Mr. Kelly was born in Chicago in 1898, later moving to Birmingham, Ala., with his parents. He graduated from Alabama Polytechnic in 1919, receiving a B. S. degree in engineering. His first job was with the Empire Gas & Fuel Company as a junior engineer in that company's training school in Bartlesville, Okla. He remained with this company for three years, going with the U. S. Bureau of Mines in 1922. While with the bureau he did general production engineering work in Texas, Louisiana and Arkansas, being transferred in 1924 to Winnett, Mont., as superintendent of the oil and gas operations on government lands in Montana, North Dakota and South Dakota.

In 1925 Mr. Kelly joined the Pure Oil Company, moving to Mexia, Tex., where he was made division production engineer. When the company moved its Texas division offices to Fort Worth in 1927 he was also moved into that city where he still has his offices. Mr. Kelly was the first chairman of the Southwest division of production of the American Petroleum Institute in 1928, and since that time has served as district chairman of the production practice committee. He is a Mason and a member of the Sigma Nu fraternity.

Roy C. Tarrant, of Sheridan, Wyo., is in New York City on business.

• • •

O. Berg has been appointed assistant manager of the Union Oil Company for the Spokane, Wash., district.

• • •

Gerald Monaghan, of the Mid-Continent Petroleum Corporation, has been transferred from Tulsa to Kansas City.

• • •

H. P. Rue, in charge of the U. S. Bureau of Mines experimental station at Laramie, was in Casper, Wyo., several days recently.

• • •

Carbon Petroleum Dubbs arrived in Los Angeles, Calif., recently on board the Steamship Santa Paula from New York for a brief visit.

• • •

Kenneth R. Kingsbury, president of the Standard Oil Company of California, is in Hawaii for his first real vacation in several years.

• • •

J. B. Cleary, civil engineer for the Stanolind Oil & Gas Company, with headquarters at Midwest, stopped in Casper, Wyo., while en route to Cheyenne.

• • •

I. L. Dunn, of the firm of Dunn & Lewis, petroleum engineers, Tulsa, is again in his office after spending some time on professional work in Kentucky.

• • •

R. E. Powell, general manager of the Baytown, Tex., refinery of the Humble Oil & Refining Company, is confined to his bed with attack of influenza. He has been removed from Baytown to a Houston hospital.

• • •

Dr. E. R. Lederer, vice president of the Texas Pacific Coal & Oil Company, Fort Worth, Tex., has been appointed a member of the executive committee of the Fort Worth-Tarrant County Chapter of the American Red Cross.

• • •

W. S. Ackerman, of the Associated Oil Company, has replaced A. H. Hand of the Union Oil Company as California representative on the statistical subcommittee of the American Petroleum Institute general committee on refinery statistics and economics.

• • •

Dr. E. H. Sellards, director of the Bureau of Economic Geology in Texas, and Dr. Charles L. Baker, also with the bureau, have recently been in Coleman, Tex., and the surrounding counties investigating fossils. M. G. Cheney, geologist and independent operator in Coleman, assisted with the work.

• • •

Allen M. Pearis, formerly with the Petroleum Engineering Service, Inc., Dallas, Tex., has opened up a new petroleum and refining engineering company which is known as the Ampco Engineering Company. The company is now constructing a 2,000-barrel refinery for the McMurrary Brothers just north of Arp in East Texas.

• • •

David Gibson Hawthorn, production engineer with the Barnsdall Oil Company, Tulsa, was married on Tuesday evening, February 14, to Miss Lois Burton at the home of the bride's parents, Mr. and Mrs. E. C. Burton, 1104 East Twenty-first Place, Tulsa. The newlyweds are on a short honeymoon trip in Missouri and will be at home to their friends in Tulsa after February 20.

• • •

Lee LaFerney, formerly manager of the refining department of the Crown Central Petroleum Corporation, Houston, Tex., has joined the Industrial Oil Service Company in the capacity of executive director. His son, C. D. LaFerney, will continue as manager of the latter company which operates as a clearing house for buyers and sellers in the handling of crude and refined products, both for domestic and export movement.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Extreme Pressure Lubricants Are In Development Stage

Your magazine suggests that the extreme pressure lubricants now available do not come up to the specifications of the automobile manufacturer. My understanding is that there is now on the market a lubricant that does not break down under 45,000 pounds per sq. in. and does not break down for one hundred thousand miles. Any data you can send me regarding this subject will be much appreciated.—J. V. K.

The extensive use of extreme pressure lubricants must be delayed until investigations have been completed to determine standard specifications and testing methods. It is the object of the automobile designer to produce lower bodies with more powerful engines operating at higher speed. Smaller rear axles will be necessary for the required clearances. The trend toward smaller rear axles, smaller gears, higher engine torque, tooth pressures and rubbing velocities seem to indicate that the rear axle cannot continue to be satisfactorily lubricated with the straight petroleum lubricant. The petroleum refining and automobile industries are investigating the composition of lubricants and testing methods, both of which should be standardized before a general distribution of extreme pressure lubricants can be attempted. It is desirable that a testing machine be adopted as standard which will make possible an interpretation of the results obtained for indicating what may be expected under service conditions.

These points were discussed by Wolf and Mougey in The Oil and Gas Journal November 17, 1932, page 58, from their paper presented before the American Petroleum Institute, twelfth annual meeting, Houston, Tex., November 17, 1932. They stated that there are three types of extreme pressure lubricants now available: "A"—A blend of a sulphur chloride treated saponifiable oil base and a petroleum of suitable viscosity, or by combining sulphur chloride direct with a petroleum oil. "B"—A blend of a saponifiable oil containing chemically combined added sulphur and a petroleum oil, or straight sulphur mineral lubricants in which the sulphur has been combined directly with the petroleum oil. "C"—Lubricants containing lead soap and sulphur. These may contain added sulphur or may depend upon the sulphur present in the mineral oil. The action of sulphur and chlorine assumes that these materials are liberated on the bearing surfaces under the local high temperatures prevailing under the critical combination of load and rubbing velocity and that the sulphur and chlorine thus liberated combined with the surface metal to form thin films of iron sulphide or chloride, which have greater carrying ability than the fluid lubricant.

Lubricant 3 was operated for 48,703 miles, under exceptionally severe driving conditions in an experimental high-tooth pressure spiral bevel gear axle. The temperature in this particular test did not exceed 150° F. and no oxidation or thickening was reported.

Records from other laboratories indicate that under very high temperatures even the highly refined cylinder and bright stocks will oxidize and become solid. Under such severe service conditions frequent changing of the lubricant is necessary. One axle manufacturer is now recommending that the lubricant in all axles which operate under high temperature conditions be examined for oxidation every 5,000 miles and changed at least every 10,000 miles.

Smackover Oils Require Special Refining Methods

What properties of Smackover crude petroleum make the cracked distillate derived therefrom so difficult to refine? I understand that the acid-treated product does not give a suitably colorless rerun distillate.—E. H.

There are two grades of Smackover crude oil, the light, about 26° A.P.I. gravity, and the heavy, about 20° A.P.I. gravity. The light oil contains 2.0 per cent sulphur and the heavy 2.4 per cent, according to the U. S. Bureau of Mines report. There is some emulsified oil containing approximately 20 per cent water which is treated in the field. The gasoline content, as obtained by topping, is 14 per cent for the light oil and 8 per cent for the heavy. This yield may be increased to 33 to 50 per cent by a suitable cracking operation. The gasoline is normally of low gravity and consequently lacking in volatility, so it is necessary, in order to make a marketable motor fuel, to blend the product either with gasoline from a higher crude oil or with natural gasoline.

The operating expense for refining the heavy oil is high because of its asphaltic character and the tendency to form carbon deposits in the tubes of the still. The general character of these oils, including the sulphur content, makes treating difficult. The gasoline, unless fully refined, may go off color rapidly due to polymerization. The antiknock value of the gasoline is high, ranging from 60 to 65 octane number, and carefully controlled methods must be employed to conserve this desirable property.

Egloff and Morrell discussed the treating of Smackover distillates in a paper presented before the American Chemical Society, Tulsa, April 7, 1926, from which the following is quoted:

"Special methods of treating have been devised for the pressure distillate oil resulting from the cracking of Smackover crude. The following method is being used on a commercial scale with success in producing a water white, good color, negative corrosion and stable gasoline.

"The pressure distillate is first water washed and given a light sodium hydroxide treat. This removes the hydrogen sulphide present. The cracked distillate is then treated with plumbite solution and the heavy sludge, after settling, is drawn off. The cracked distillate is then given a water wash, the water withdrawn and the distillate treated with 1 pound of sulphuric acid per barrel of oil. The main acid treat consisting of 6 pounds of sulphuric acid per barrel, is then applied after drawing the sludge from the previous treat. The second acid sludge is drawn, the oil water washed and then distilled in the presence of steam to produce gasoline distillate therefrom. The gasoline distillate is treated to improve the odor with a dilute solution of sodium hydroxide.

"It is well known that the aromatic hydrocarbons present in gasoline are the highest antiknock components, the naphthene and unsaturated hydrocarbons to a lessor extent, whereas the paraffin hydrocarbons are high knocking in an automotive engine. Smackover cracked gasoline contains high percentages of these valuable antiknock hydrocarbon groups."

COMPOSITION OF LUBRICANTS TESTED IN CURRENT-PRODUCTION REAR AXLES AND IN AN EXPERIMENTAL HIGH-TOOTH-PRESSURE, SPIRAL-BEVEL-GEAR REAR AXLE

Type—	G.M.A.-9	Sulphur chloride					Sulphur and sulphur-saponifiable					Lead-soap			Castor	S.A.E 20+ 10 per cent CCl_4
Lubricant No.	1	2†	3†	10‡	11‡	12‡	4	5	13	14	15	6	7	16	8	9
Viscosity at 210°F.	95	108	115	105	182	164	85	125	166	160	161	92	147	190	100	41
Total saponifiable	None	8.2	13.6	11.2	4.2	15.0	9.5	34.0	27.9	0.25	16.1	16.0	24.5	4.30	100	None
Total sulphur	*3.2	3.38	3.46	1.05	2.84	1.75	1.25	3.20	3.64	2.44	3.19	1.94	2.80	2.40	...	...
Total chlorine	None	0.44	0.74	0.81	0.46	0.98	None	None	None	None	None	None	1.24	None	...	9.3
Lead (calculated as PbO)	None	None	None	None	None	None	None	None	None	None	None	6.5	1.6	3.30	...	None
Copper strip test.	Negative	Slight	Negative	Positive	Positive	Negative	Negative	Negative	Positive	Positive	Positive	Positive	Negative	Negative	Negative	Negative

*Contains no added sulphur. †Black oil. ‡Refined cylinder oil or bright stock.

Properties and Refining Value of Seminole Crude Oil

Will you kindly give me the important properties of Seminole crude oil, which is produced in Oklahoma? How much gasoline does this oil yield by topping and cracking? Is there any reason why this oil should be expensive or difficult to refine?—S. T. R.

The Seminole oil is recognized as one of the high grade petroleums of the Mid-Continent, having a gravity of approximately 39° A.P.I., containing 0.38 per cent sulphur and yielding 40 per cent gasoline by topping and 78 per cent by the combination of topping and cracking. Egloff and Morrell state in The Oil and Gas Journal, May 19, 1927, page 152, that this oil is comparatively simple to refine commercially. It is relatively low in sulphur and practically free from water. The treatment of the pressure distillate should offer no special difficulty, but the nature of this distillate will depend upon the cracking conditions. The remarks following are quoted from the article mentioned.

"No treatment was required for the straightrun gasoline other than a wash with a dilute solution of caustic soda. The kerosene required 1 to 2 pounds of sulphuric acid only. The acid treatment was followed by a water-wash and caustic-wash after drawing the acid sludge. Agitation with about a pound per barrel of fuller's earth after settling the water improved the color and removed a slight cloud.

"The cracking of Seminole topped crude was carried out at temperatures between 830° F. and 850° F. at a pressure of 135 pounds per square inch. The tests were made to produce cracked distillate, coke and incondensible gas in one method of operation. With another method of operation cracked distillate, residual oil, coke and incondensable gas were produced. The yield of Navy endpoint gasoline on the basis of nonresiduum operation was 67.4 per cent. The residuum operation gave a yield of 53.7 per cent of Navy endpoint gasoline, based on the topped crude. These tests do not include recycling.

"It was relatively easy to refine the cracked distillate with sulphuric acid, water and sodium plumbite. The cracked distillate was agitated with 4 pounds of 66° Be. sulphuric acid. The acid sludge was settled and then drawn off. The acid-treated distillate was then washed with water. The water was settled and then drawn off. The treated distillate was neutralized with approximately 1 per cent by volume of 16° Be. sodium plumbite solution. After the removal of the plumbite sludge, the cracked distillate was washed with water. The chemically treated distillate was transferred to a steam-and-fire still where it was fractioned at a temperature of approximately 300° F., into finished, marketable gasoline. A dilute caustic wash is desirable after distillation. The two products derived from the cracked distillate are gasoline and pressure distillate or gas oil bottoms."

NATURAL GAS DEVELOPMENTS

Project to Supply Miami With Gas From Nowata

A new offer to furnish natural gas to the city of Miami, Okla., for a municipally operated distribution system is under consideration by the city administration. The proposition, which contemplates construction of a 40-mile pipe line from Nowata County fields and sale of the gas at a gate rate ranging downward from 25 cents to 14 cents per 1,000 feet, was placed before the utilities board and city commissioners by a group of St. Louis, Mo., men having gas acreages in the Nowata Field.

This group, according to the spokesman, is prepared to take over the project of J. N. Sloan, whose contract with the city two years ago to furnish gas from the Nowata County Field was discarded. The agreement with Sloan was entered into after a special election in May, 1931, had declared in favor of the issuance of $150,000 in bonds for construction of a municipal system. Six months after the election, the Consumers Gas Co., through application to the State Corporation Commission, lowered its domestic rate. The Consumers company's franchise, granted in 1909 for 25 years, will expire in April, 1934, and it is understood that company will shortly make formal application for a renewal.

Outlet for Muskegon Gas for Replacing Gas Oil

MUSKEGON, Mich., Feb. 13.—A possible new outlet for about 140,000 feet a day of natural gas from the Muskegon oil field to replace gas oil as an enricher for the manufactured product of the Muskegon Gas Co. has been announced by E. H. Kifer, president.

Mr. Kifer has agreed to replace gas oil with natural gas from the West Michigan Consumers Co. under certain provisions to be determined by a 10-day test to be made as soon as connections can be laid.

The use of natural gas instead of gas oil will depend upon several factors, principally uniformity of the natural fuel both as to heating value and specific gravity as well as reliability of the supply.

About 140,000 feet a day, or 50,000,000 feet a year, will be required on the basis of the Muskegon Gas Co.'s 1932 sendout of about 277,000,000 feet, it is estimated. It is planned to mix the gases mechanically.

GAS ENGINEERING COURSE

Effective with the beginning of the present semester of the college year, February 1, Oklahoma University, at Norman, is offering a course in natural gas engineering leading to the degree natural gas engineer. It is believed this is the first course leading to this degree offered by any university in the United States. The course will be under the direction of Prof. W. H. Carson, widely known through the active part he has taken in the Southwestern Gas Measurement Short Course.

The expansion of the natural gas industry during the past five years has demonstrated to natural gas company executives the need for adequately trained natural gas engineers. Heretofore positions of highest responsibility have had to be filled by men of practical rather than adequate college training, or, if with the latter, men with degrees in civil, mechanical, or electrical engineering, who proved themselves capable of adapting their training and qualifications to the needs of the natural gas operating field.

Louisiana Output Less, Potential Large, Conservation Commission Reports

Louisiana has dropped to its lowest production of natural gas since 1927, the annual report of M. E. Nash, engineer of the minerals division of the State Conservation Commission, shows.

"There is no doubt that all of the other gas producing states will show a similar decline for the same period," he observed, "therefore no unusual amount of concern need be registered as to the potential and reserves of the State; and should the demand for domestic and industrial gas become greater than the supply just so surely will Louisiana call upon her unlimited reserves to supply her quota."

Mr. Nash reported that the State's total production for 1931 was 222,000,000,000 feet, against 194,000,000,000 feet for 1932. The decrease, reduced to a percentage, amounts to 14.6 per cent.

Rodessa, in Caddo Parish, producing from the Trinity horizon, has recently added a 62,500,000-foot well to its production, "which is encouraging as a source of future supply," he said. The field is comparatively new, and because of the high gasoline content, and an insufficiency of gasoline plant capacity, no heavy withdrawals have yet been made upon them, in an effort to determine a decline curve toward the probable life of the field.

The carbon black industry, Mr. Nash says, can readily account for approximately 10 per cent of the total state decline, while a moderately mild winter in Louisiana and adjoining states is responsible for a further decrease. The distributing companies have not been called upon to deliver a peak load in the coastal area, while perhaps the 522-mile line to St. Louis and intermediate points has been carrying an excessive load due to extremely cold winter in northern Arkansas and Missouri. Because of the new Jackson, Miss., gas field, the load would be lessened on the line to Birmingham and Atlanta. Until the discovery of the Jackson gas field, the Monroe and Richland fields were supplying the demand for both domestic and industrial consumption in that area.

While a total of 25 wells have been drilled in the Parishes of Morehouse, Ouachita and Union, but little new production has been added to the Monroe Field. The majority of these wells may be classified as wildcats and drilled in widely separated areas in search of production apart from the Monroe Field. Monroe is holding its own wonderfully well against water encroachment, as but a total of 14 wells were abandoned during 1932. Considering that there are approximately 850 producing wells in this area, much credit seems due the minerals division and the operators for their strict observance and attempt to protect the field.

The Richland Field has had but three new drilling operations during the entire year, while a total of 30 permits have been issued to abandon and pull casing. This fact would seem to indicate that the life of the field was threatened in certain places which not need be surprising considering the numerous craters that destroyed so much of the field's reserve. There is also a noticeable amount of water encroachment in the outer wells and those near the crater areas. Should the next few months indicate that the water condition is increasing, some remedial measures will be taken to prolong the life of the field. As the productive limits of the field is to a certain extent outlined, no new extensions are anticipated, and but few interior wells will be drilled.

The last closed pressure report issued by the minerals division in October, clearly shows the pressure decline in this field, varying from a few pounds on every well to 250 on others. The Monroe Field presents quite an entirely different picture, for while this field is considerably older than the Richland Field, many of the wells register an increased pressure rather than a decline. The average closed in pressure for both Monroe and Richland is estimated at 500 pounds.

In addition to the Monroe fields, both Sugar Creek in Claiborne Parish and Rodessa in Caddo Parish give promise of an enormous supply. While Sugar Creek has added two unusually good wells to its list of producers, it has also added one near failure. Apparently this well was drilled slightly off structure and is in no way discouraging as to the possibilities of the field.

A table of the natural gas production in several major fields is given by Mr. Nash as follows:

Field—	Metered production (feet)
Morehouse	16,411,413,000
Ouachita	50,797,605,000
Union	23,057,815,000
Richland	81,244,039,000
Claiborne	3,883,401,000
Caddo	1,272,839,000
All other fields	17,383,712,000
Total for State	194,000,574,000

Ontario Natural Gas Line Plans Being Completed

CHATHAM, Ontario, Feb. 11.—Further details of the proposed natural gas line from the Sarnia Oil & Gas Co. properties in Lambton County to Stratford and intermediate points indicate the possibility that natural gas production may be supplemented by gas produced as a by-product of operations of the Imperial Oil, Ltd., refinery at Sarnia.

The Sarnia Oil & Gas Co. has a number of shallow wells in Sarnia Township, having small individual production. The company was also interested in a deep test drilled last year by Fairbanks Oil & Gas Lease, Ltd., southeast of Oil Springs. This well, formerly the Fairbanks gusher, was deepened and shot, securing a reputed production of 6,000,000 feet a day.

It is reported that a new company, backed largely by French capital, will be organized to handle the pipe line project. Some negotiations have been carried on with the Canadian National Railways for permission to lay the pipe line on the railroad right of way, though no arrangement has been reached. It is proposed to follow this right of way, or an alternative route, as far east as Stratford and Kitchener. Later branch lines would be built to St. Mary's, and through Mitchell to Clinton and Goderich.

New Gas Trunk Pipe Line Being Built to Houston

HOUSTON, Tex., Feb. 13.—Surveys are being completed and right of way taken by the Moran Corp. of Texas for the laying of a natural gas trunk pipe line from the Conroe Field to Houston. The line will be 10-inch and will require 35 miles of pipe. It will follow a direct line and reach Houston near the Sinclair Refining Co.'s plant on the Ship Channel just east of the city, making the channel crossing through the tunnel built by Sinclair last year.

With the completion of the line, the Moran Corp. will be the third company to have a gas trunk line into Houston, the others being the Houston Pipe Line Co. and the United Gas System. The Moran line for the time being will not compete for domestic business but is being laid to supply industrial demand. The company is reported to have made contracts with several large users.

The Moran Corp., which has headquarters at Houston, operates the distribution system in the city of Conroe and has a 4-inch line connecting it with the field. This was laid soon after the Conroe Field was opened.

Construction of the Houston line will begin in the near future and will be rushed to completion.

Shelby Rate Case Appeal Before Supreme Court

WASHINGTON, D. C., Feb. 13.—The appeal of the Public Service Commission of Montana from a three-judge Federal district court decree enjoining enforcement of an order which prescribed minimum rates for gas supplied by the Great Northern Utilities Co. to the city of Shelby, Mont., will be heard by the Supreme Court of the United Staes.

Contending that the minimum rates were prescribed to prevent ruinous competition, the commission in its appeal to the Supreme Court urges that the rates are neither confiscatory nor discriminatory, they being higher than the schedule of rates then being charged by the Great Northern.

The Fourteenth Amendment to the Federal Constitution, the commission states, does not guarantee to the Great Northern a reasonable return on the present fair value of its property but only an equal opportunity to secure a reasonable return. It also is claimed that the Great Northern has no right to engage in unrestricted competition nor a right to disable the secondary company by a rate war.

GAS UTILITIES-MIDWESTERN

Gas Utilities Co. has acquired control of the Midwestern Oil & Gas Co., and will assume operating management at once. The Midwestern company was organized in September, 1929, by a group of Okmulgee, Okla., oil and gas men. At that time, it took over the properties of Colton and Lester and drilled several gas wells in Pittsburg, Coal, Latimer, Haskell, Muskogee and McIntosh Counties, Oklahoma. Present holdings comprise several thousand acres of leases on the structures in these counties. There are several gas wells on the holdings of the company in the Quinton, Red Oak, Warner and adjacent fields.

RATE REVISION ASKED

CHATHAM, Ontario, Feb. 11.—Dominion Natural Gas Co. of Buffalo, N. Y., has applied to the city council of Galt, Ontario, for a revised rate schedule, the chief feature being a fixed minimum charge of 80 cents a month.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Removing Danger of Accident in Changing From Gas to Air

We are operating a gas-lift plant, using gas in the compressors for flowing the well. We have a very small supply of gas, and it may be necessary at any time to change from gas to air. We understand that this is a very dangerous step. As the writer is desirous of securing as much information as possible on the proper handling of the situation when making such a change, we would appreciate any advice you may give. He would like also to know more about the relative merits of the two systems—F. M. P.

A gas-lift plant that is to be changed to operate on compressed air, or one that has been operating on air and is to be converted to gas, first should be drained of all gas or air in the system by opening all escape valves to the atmosphere. The compressor may be turned over a few times to force the gas or air out of its cylinders, but it must not be run long because of danger of an explosive mixture getting into the cylinders. The operator then should make a check at the blowoff, also at the intake. When he is certain that only one class of matter (gas or air) remains the compressor can be started in operation in the usual way.

Air was used as the agent for compression and injection into the wells when this method of oil recovery first was adopted. The greatest advantage of air for lifting is the unchanging atmospheric pressure at the intake of the compressor.

When air is used, however, there is danger of explosion if mineral oil lubrication is employed in the compression cylinders. This danger is small; nevertheless, it is present.

The air-lift is wasteful because of the fact that when the gas is diverted to the air through the riser pipe from the separator, as must be done when air is injected into the wells, all gasoline content therein is lost. Heavy laden gas or vapor will also settle to the ground, thus presenting additional hazards.

If gas is used for lift work there is a tendency for it to pick up some of the light ends of the crude oil, and this is especially true of dry gas. This process of robbing the crude of part of its light and volatile fractions tends to weather it, and it is therefore more stable when it is stored in the stock tanks on the lease.

When air is used some portion of the lighter ends of the crude oil are absorbed and a vapor is formed. This vapor must be discharged to the atmosphere and cannot be used in recycling.

In using gas it is the usual practice for the enriched gas from the well to be treated in a gasoline plant and the natural gasoline extracted. This cannot be done when air is used.

The reason air is more dangerous is readily understood when it is realized that a mixture composed of approximately 15 per cent gas and 85 per cent air is explosive, and in a station compressing air it is possible for this proportion of gas to be present either from vaporized lubricating oil or from faulty auxiliary gas line connections to field scrubbers when pulling air through the scrubber instead of direct intakes to the compressors.

On the other hand if the station is operating on natural gas it would be necessary to draw into the system from some source 85 per cent air to make an explosive mixture.

Most explosions have been in plants compressing air. Safety in compressing air can be increased by the use of vegetable oil, which emits no combustible vaports, for lubrication, but this practice has caused excessive valve trouble in some plants and abnormal lubrication costs in others.

This problem in lubrication can be solved by engineers versed in the subject and there should be no more danger from the use of air in lift stations than there is in compressing air for any other operation. However, it is necessary to take these precautions and for that reason the possibilities of danger are explained here.

Input meters located near the lift station in a common meter house are a safety measure, for the operator then may determine by inspection if proper conditions as specified by the production engineer are being maintained. It is well to have a sufficient number of electric lights, enclosed in vapor-proof globes and with all switches located outside of the compressor room, so that examination of the meters can be made by night as well as during the day.

A check valve should be placed in the input line near the well to prevent oil from filling the line and backing up into the station during any shutdown period. Also a check valve should be placed in the gravitational oil line between the separator and the lease stock tanks. This will prevent air from being drawn into the system through the separator in the event of the float valve on the separator failing to operate and, after emptying the tanks, permitting air to enter the separator through them because the level of the fluid in the tank is so low that the end of the line between separator and tank is open.

Relief valves on the separators or traps are necessary for release of excessive starting pressure, while a check valve in the relief line from the separator will prevent air from being pulled into the lift station from that source.

Summing up, it may be stated that there is no objection to using air in a lift system if proper precautions are taken to prevent a mixture of 15 per cent gas and 85 per cent air from entering the compressor cylinders. This gas may come from one of two sources, lubricating oil that is unsuited for this purpose or from external connections to the atmosphere through which air may be drawn.

Were it not for the extraction of gasoline and of furnishing fuel gas for the field, most engineers probably would prefer to use air. They point out that installation costs are lower, vacuum pipes from the well to the plant can be omitted, aftercoolers are dispensed with, etc., and there is a more dependable source of supply than when using gas.

Gas-Lift Compressor's Size Must Be Determined by Conditions

There seems to be a difference of opinion concerning the best size of compressor to use in gas-lift work. I have been advised to use a large size, while other persons, equally experienced, tell me a small size is better. Can you give me any suggestions?—E. A. E.

This department is indebted to S. F. Shaw, consulting engineer, San Antonio, Tex., for the following answer to your question:

"Wells can be operated successfully on the gas-lift with either large or small compressor units. The choice of the size will depend greatly on individual preference, on the conditions obtaining and the purpose for which the plant is to be used. If a gasoline plant is to be installed to furnish compressed gas for lifting oil from a large number of wells and if it be known in advance that the plant will remain in operation for several years, the large size of compressors can be installed at a lower cost for a given capacity than can small compressors. Also operating costs will be lower per thousand cubic feet of gas compressed than when using small compressors.

"In many cases plants are erected for flowing oil wells where the number of wells is limited to one to four, due to the checkerboard method of buying oil leases. Also many of these plants are discontinued after a service of two or three years. Under such conditions the small size of compressor unit has the following advantages:

"1. The small units can be set up on inexpensive foundations and other expenditures can be held low, since the usual finishing touches of a gasoline plant can be dispensed with.

"2. The plant can readily be handled by the regular pumper or lease operator, thereby reducing the operating costs from those necessary in a plant situated at a distance from the wells which requires special operators. The handling of small units is much more practicable if the pumper is to have the responsibility of the plant operation. There is less danger in leaving for a time unattended a plant of small units. Nothing is thought of leaving unattended several 25 horsepower to 50 horsepower gas engines which drive the beam pump on a lease. There would be still less inconvenience in leaving unattended a group of small units installed at a central point than small units scattered over a large area.

"3. Kicking off wells on gas lift usually requires a considerably higher pressure, especially in the early life of a well, than the normal operations. When using large compressors with the gas combined in one header, it is not convenient to raise the pressure on all of the units and at all of the wells in order to start one well. It is true that separate high and low pressure headers can be installed, but they are more complicated than when using small individual units direct on one well where the pressure builds up until the well is started and then automatically drops to the normal pressure required to flow the well.

"4. The wells can be direct-driven from one or more small units, depending on the size of the well. If, for instance, the well operates with three small units, it is very unlikely that shutting down one unit for inspection or repairs will cause the well to stop flowing. If a large unit is closed down it is probable that the well would cease flowing and would need to be kicked off at each shutdown of the compressor.

"5. As the wells decline in production and require less gas to lift the oil, one small unit can be removed from time to time and used elsewhere, whereas the owner would have to wait a considerably longer time before a large unit could be released.

"6. Small gas engines belted to small compressor units can be used for a good many other purposes in an oil field than for driving compressors, if at any time the gas-lift operations are discontinued. The initial cost of the gas engine usually accounts for about 60 per cent of the cost of the combined engine-compressor unit, and the possibility of using this 60 per cent investment for some purpose other than for driving compressors is well worth considering."

Why Was It Called That?

GOVERNMENT WELLS POOL

Calamity faced farmers and ranchmen in the northern part of Duval County, Texas, as the result of a prolonged drouth about 25 years ago. Many of them were virtually penniless and their cattle were dying from starvation. The U. S. Government came to the rescue by drilling deep wells to provide the water so desperately needed. After that it was common to refer to the Government Wells district. When oil was found there the field took its name from the water wells and became known as the Government Wells Pool.

MARKET RECORD OF OIL SECURITIES

By A. E. Mockler

NEW YORK, Feb. 13.—Atlantic Refining Co. and subsidiaries report for 1932 earnings of $3,918,000, compared with net of $514,000 for the previous year. Both figures are after interest, depreciation, taxes and inventory adjustment. Net for 1932 was equal to $1.45 a share, as compared with net of 19 cents per share in 1931.

South Penn Oil

Stockholders of South Penn Oil Co. have approved the new plan for annuities in which the company and employes each pay part of the costs. Retiring directors were re-elected.

Sun Oil Co.

Sun Oil Co. and subsidiaries report for 1932 net earnings of $4,198,046, after taxes and charges, as compared with net of $3,107,147 in 1931. Net to common after preferred dividends was equivalent to $2.35 per share, as compared with $1.63 a share earned on the common in the preceding year. Sun Oil Co. has declared the regular quarterly dividends of 25 cents per share on the common, payable March 15 to stock of record February 25, and $1.50 on the preferred, payable March 1 to stock of record February 10.

Sun Oil Co. has notified stockholders of its 15-year 5½ per cent sinking fund gold debentures, due September 1, 1939, that $47,500 principal amount of these debentures have been drawn by lot for redemption for account of the sinking fund on March 1, 1933, at 101½ per cent of principal amount and accrued interest. Debentures should be presented for payment on or after March 1 at the Chase National Bank, corporate trust department.

Canfield Oil

Canfield Oil Co. has declared the regular quarterly dividend of $1.75 per share on its 7 per cent preferred stock, payable March 31 to stock of record March 20.

Ohio Oil

Ohio Oil Co. has omitted the dividend due at this time. The company three months ago paid 10 cents per share. The regular quarterly dividend of $1.50 was declared on the preferred stock, payable March 15 to stock of record March 4.

New York Transit

New York Transit Co. reports for 1932 net credit of $50,317 to surplus before dividends, compared with net credit on the same basis of $75,554 in 1931. Dividends declared for the year amounted to $40,000, as compared with $100,000 in 1931. Provision of $35,600 for shrinkage in value of securities sold and $14,605 for annuity premium adjustments were charged against profit and loss surplus, which on December 31 totaled $177,416, against $217,304 at the close of the previous year.

Socony-Vacuum

Socony-Vacuum Corp. has declared a quarterly dividend of 10 cents per share, payable March 1 to stock of record February 20.

Buckeye Pipe

Buckeye Pipe Line Co. has declared a quarterly dividend of 75 cents per share, payable March 15 to stock of record February 17.

Bandini

Bandini Petroleum Corp. has declared a monthly dividend of 5 cents per share, payable February 20 to stock of record January 31.

Directors Elected

D. L. Thomas and F. M. Kent have been elected directors of Eureka Pipe Line Co. Other directors and officers were re-elected.

D. L. Jolly has been elected a director of South West Pennsylvania Pipe Lines, succeeding D. L. Thomas. Other directors were re-elected.

Seaboard

Directors of the Seaboard Oil Co. of Delaware declared an extra dividend of 10 cents a share and regular quarterly dividend of the same amount, both payable March 15, to owners of record March 1. Following the declaration, the company indicated that consolidated profits for 1932 were more than sufficient to cover four quarterly payments, and because of this the directors have decided on the extra dividend.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb based on closing quotations for Wednesday, was as follows:

Aug. 3	15.18	Nov. 9	14.38
Aug. 10	17.21	Nov. 16	15.15
Aug. 17	16.21	Nov. 23	14.61
Aug. 24	17.19	Nov. 30	14.04
Aug. 31	17.24	Dec. 7	13.21
Sept. 7	18.50	Dec. 14	14.21
Sept. 14	15.90	Dec. 21	13.53
Sept. 21	16.72	Dec. 28	13.50
Sept. 28	15.55	Jan. 4	13.49
Oct. 5	14.44	Jan. 11	14.53
Oct. 11	14.31	Jan. 18	13.76
Oct. 19	14.37	Jan. 25	13.37
Oct. 26	14.43	Feb. 2	13.26
Nov. 2	13.99	Feb. 8	13.21

Standard Oil of Kansas

Standard Oil Co. of Kansas directors have approved a plan to acquire at $17 a share or less additional shares of the company's stock and stock of the predecessor company, not yet exchanged. The shares will be acquired out of surplus and will enlarge holdings, which approxi-

Independent Oils on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Feb. 4)

1933 High	1933 Low	Week ended Feb. 4 Sales	Week ended Feb. 4 High	Week ended Feb. 4 Low	Close Feb. 8	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
⅝	¼	500	⅜	⅜	⅜	American Maracaibo	(sh)	700,000	N.P.	....	.....	4½	½	1¾	¼	¾	¼
1⅝	1¼	100	1⅝	1⅝	1¼	Arkansas Natural Gas	(sh)	4,084,225	N.P.	....	.....	16¾	4⅝	6½	1⅞	3¾	¾
2	1⅛	2,700	1⅝	1⅛	1¼	Arkansas Natural Gas "A"	(sh)	3,522,521	N.P.	....	.....	16⅝	4⅝	6¾	1⅞	3⅜	½
3¼	2⅜	100	2⅞	2⅞	..	Arkansas Natural Gas pfd.	(sh)	2,193,000	$10	....	4- 1-32	8⅛	6¼	7	3⅞	5⅝	1½
7⅝	6½	300	6½	6⅛	..	British American Oil Corp.	(sh)	2,022,642	N.P.	20cQ	12-14-32	23	13⅜	16⅞	6¼	9¾	6¾
⅞	¼	1,000	⅝	¼	¼	Carib Syndicate		$131,250	25c	....	.....	2¾	⅝	2⅜	¼	¾	¼
3¼	2¼	25,400	2⅝	2¼	2½	Cities Service	(sh)	36,979,065	N.P.	....	6- 1-32	44¼	13	20¾	5	6⅞	1¼
17½	14	700	15	14	13½	Cities Service pfd.	(sh)	1,125,931	N.P.	....	6- 1-31	93⅞	78¼	84¾	35⅜	53⅜	10
⅛	⅛	33,000	⅛	⅛	..	Colombia Syndicate		3,250,000	N.P.	....	.....	21	3⅜	7⅛	1	¼	⅛
1⅛	⅞	300	⅞	⅞	⅞	Columbia Oil & Gasoline v.t.c.	(sh)	$2,000,000	$1	....	.....	¾	⅛	½	⅛	2⅛	½
½	⅝	100	⅝	⅝	¼	Colon Oil	(sh)	2,200,000	N.P.	....	.....	8¼	1⅛	3⅛	¼	1¼	¼
1¼	1	1,100	1⅛	1	..	Consolidated Royalty Oil Co.		$5,527,880	$10	5cQ	1-25-33	5⅞	2	2¾	1	2	1
1⅝	1⅜	100	1⅝	1⅝	..	Cosden Oil	(sh)	323,950	N.P.	....	.....	74¾	1¼	3¾	⅜	2⅞	¼
3½	2¾	No sales	..	..	..	Darby Petroleum	(sh)	600,696	N.P.	....	10-15-30	21¾	4¼	5	1¾	7⅛	1⅝
1¼	1⅛	No sales	..	..	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	11	2	6	1½	3	1
..	..	No sales	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	60	30	40⅛	25	24½	10½
29¼	26	1,900	28¾	26	26½	Gulf Oil Corp.	(sh)	4,504,921	$25	....	10- 1-31	166⅞	58½	75½	25⅜	44¾	23
1½	1¼	100	1½	1½	..	Indian Terr. Illum. Oil "B"	(sh)	7,090,037	N.P.	....	.....	53½	12⅝	16⅞	5	4½	1½
⅛	⅛	1,000	⅛	⅛	..	Intercontinental Petroleum		$5,682,000	$5	....	.....	1⅞	⅜	⅝	⅛	¼	⅛
⅝	⅝	200	⅝	⅝	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	⅞	1⅞	¼	1	⅜
⅛	⅛	No sales	..	..	..	Leonard Oil & Development		$50,000,000	$25	....	.....	5	¾	2	½	¾	⅛
⅞	⅝	2,100	⅞	¾	..	La. Land & Exp.	(sh)	3,000,000	N.P.	....	.....	4¾	½	1½	¼	2½	½
2¼	1⅝	No sales	..	..	1½	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	29	4⅞	6¾	1½	3½	⅞
7⅝	6⅝	900	7⅛	6⅞	7	Lone Star Gas	(sh)	5,000,000	N.P.	16cQ‡	9-30-32	55⅞	19⅝	25	5½	11	3⅜
6½	6	100	6	6	..	Margay Oil Corp.		160,000	N.P.	25cQ	7-11-32	16	3	5	1⅞	8	3¾
3⅝	2½	100	2⅞	2⅞	..	Memphis Natural Gas	(sh)	920,000	N.P.	....	4-15-32	22¼	7½	12⅛	4½	5¼	1⅝
2	2	200	2	2	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	7½	1¾	4⅞	1½	3⅜	1½
¼	¼	500	¼	¼	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	¾	⅜	½	⅛	⅜	⅛
3⅜	2½	300	2⅞	2¾	..	Mountain Producers		$1,682,182	$10	20cQ	1- 3-33	12⅛	3¾	5⅞	2	4¾	2⅜
13¼	12½	1,000	12¾	12½	..	National Fuel Gas	(sh)	3,810,183	N.P.	25cQ	1-16-33	41⅜	19⅜	26½	9¾	14⅝	8
⅝	½	1,300	⅝	½	⅝	New Bradford Oil		$7,224,186	$5	....	4-15-31	3½	1⅛	1½	½	⅞	⅜
⅞	½	600	½	½	..	New Mexico and Arizona		$1,000,000	$1	....	.....	7¼	1½	3	¾	1¼	⅜
..	..	No sales	..	..	..	North Central Texas	(sh)	262,446	$5	....	9- 2-30	11¼	2⅛	3¼	⅝	1½	⅝
⅛	⅛	200	⅛	⅛	¼	North European Oil	(sh)	1,372,391	N.P.	....	.....	6¼	⅝	2⅛	¼	⅜	⅛
..	..	No sales	..	..	..	Pacific Western Oil	(sh)	1,000,000	N.P.	....	.....	19½	5½	15	2⅞	8	3
⅛	⅛	100	⅛	⅛	..	Pantepec Oil	(sh)	1,595,500	N.P.	....	.....	4⅜	⅞	2	⅝	⅝	⅛
..	..	No sales	..	..	..	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	5⅝	1	3⅛	¼	½	⅛
¼	¼	300	¼	¼	..	Richfield Oil pfd. x.w.	(sh)	399,950	$25	....	.....	23½	6½	11	¼	1	⅛
¾	¾	No sales	..	..	⅝	Ryan Consolidated	(sh)	296,931	N.P.	....	.....	8⅝	2	3	¾	2⅛	⅝
½	½	800	½	½	⅝	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	21½	½	1⅜	⅛	⅞	⅛
4½	3⅝	100	3⅞	3⅞	3⅞	Salt Creek Producers	(sh)	1,496,859	$10	25c	2- 1-33	15¼	5¼	7¾	2¾	5½	2⅞
⅝	¾	200	¾	¾	..	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	10	2	5¼	¼	⅝	¼
8	5⅝	1,100	7¼	6⅝	..	Texon Oil & Land	(sh)	936,036	N.P.	25c†	12-30-32	19½	8	12⅞	2½	10½	4½
⅛	⅛	No sales	..	..	⅛	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	4¼	⅜	1⅞	¾	⅛	⅛
2⅛	2	300	2	2	..	Woodley Petroleum		$500,000	$1	....	3-31-29	5	½	3½	1⅛	2⅜	1⅛

*Ex-dividend. †Plus extra dividend of 25 cents. ‡Payable in stock. §Paid in lieu of regular cash dividend of 2 per cent.

mated 50,000 shares on December 31, last. Offerings by stockholders to the company will be accepted up to the close of business February 28. If the number of shares offered exceeds surplus funds available for the purpose, a ratable allotment will be made.

Income account, covering the operations of the new company, for the nine months ended December 31, shows net profit of $69,971, after taxes and charges. Consolidated balance sheet as of December 31 showed cash holdings of $3,746,775 and U. S. Government bonds of $100,000, at cost, less reserves.

Union Tank Car Co.

Union Tank Car Co. has declared a quarterly dividend of 35 cents per share, payable March 2 to stock of record February 15.

South West Pennsylvania

Southwest Pensylvania Pipe Lines reports for 1932 net profit of $29,273 after depreciation, taxes etc., and after profit and loss adjustment net profit of $16,665, equal to 83 cents a share on 35,000 par $50 stock. In 1931 the company showed net of $155,498, or $4.44 a share. Profit and loss surplus at the year-end stood at $299,925.

Pan American

Pan American Petroleum & Transport Co. has declared a quarterly dividend of 20 cents per share on its class "B" stock, payable March 15 to stock of record February 16.

Standard Oil Stocks on New York Curb

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Feb. 4)

1933 High	1933 Low	Week ended Feb. 4 Sales	Week ended Feb. 4 High	Week ended Feb. 4 Low	Close Feb. 3	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
6	6	No sales	..	..	..	Borne Scrymser		$1,000,000	$25	....	10-15-30	25	11¼	16	6	7	6
27	25	No sales	..	..	..	Buckeye Pipe Line		$10,000,000	$50	75cQ	3-15-33	69	39⅞	56	30	35	17½
90	90	100	90	90	90	Chesebrough Mfg.		$3,000,000	$25	$1Q‡	12-30-32	184⅞	104¼	129½	75	90	53
2⅞	2⅝	3,300	2⅞	2⅝	2⅝	Creole Petroleum	(sh)	5,977,872	N.P.	....	.....	7⅞	3	3⅞	1⅝	3⅛	1⅜
28½	26	No sales	..	..	..	Eureka Pipe Line		$5,000,000	$100	$1Q	2- 1-33	54¾	26	36	19	35	18
45	43¼	1,800	45	43¼	43¾	Humble Oil & Refining		$74,103,300	$25	50cQ	1- 1-33	119	57¼	72	44¼	55	35⅝
8¼	7	3,100	7¼	7	..	Imperial Oil of Canada	(sh)	26,557,496	N.P.	12½cQ	12- 1-32	30	15	18¼	7⅝	10⅞	6¼
3⅝	3⅜	1,200	3⅝	3⅜	..	Indiana Pipe Line		$3,000,000	$10	10cS.A.§	11-15-32	41	14½	21⅜	5½	7½	2¾
10⅞	8⅞	7,300	10	8⅞	9⅝	International Petroleum	(sh)	14,247,088	N.P.	25cQ	12-15-32	24	11⅝	15½	7⅜	12¼	8
7⅝	6⅜	100	6⅜	6⅜	..	National Transit		$6,362,500	$12.50	20cQ	12-15-32	22⅜	11½	17½	5	10½	6
5⅞	5	900	5¾	5¼	5⅝	Northern Pipe Line		$1,200,000	$10	25c	1- 2-33	54	26¼	35½	20	5½	3⅛
12	11¼	600	11⅜	11⅜	11	South Penn Oil		$30,000,000	$25	25cQ	12-30-32	45⅞	16⅛	23⅞	9¼	16½	9⅝
3½	3	600	3¼	3	..	Southern Pipe Line		$1,000,000	$10	10cQ	3- 1-33	20⅞	8⅜	17	7	10	3¾
33	29	No sales	..	..	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	12-31-32	64	32	42½	25	37	27
22½	20	50,000	20⅞	20	20⅝	Standard Oil of Indiana		$424,914,895	$25	25cQ	12-15-32	59⅞	30	38½	13½	25⅛	13⅛
11¼	10½	2,100	11⅛	10⅝	..	Standard Oil of Kentucky		$25,654,516	$10	30cQ	12-31-32	40½	18⅝	23⅝	12½	15⅞	8⅞
14¼	13¾	100	14	13¾	..	Standard Oil of Nebraska		$4,770,550	$25	25cQ	12-20-32	48⅞	34⅝	36½	16	19	10¼
21	19	150	19	19	..	Standard Oil of Ohio		$18,811,675	$25	37½cQ	1- 3-33	108½	43¼	62½	23	30⅛	15½
1	1	No sales	..	..	..	Swan-Finch Co.	(sh)	34,480	$25	....	1-15-29	10	4	4½	1	2	1⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus $1 extra. §Plus 5 cents extra.

Transactions in Oil Shares on New York Stock Exchange

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Feb. 4)

1933 High	1933 Low	Week ended Feb. 4 Sales	Week ended Feb. 4 High	Week ended Feb. 4 Low	Close Feb. 3	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1930 High	1930 Low	1931 High	1931 Low	1932 High	1932 Low
22	20	6,100	21½	20⅛	20	Amerada Corp.	(sh)	844,200	N.P.	50cQ	1-31-33	31½	16½	23	11¼	22¾	12
14¾	14⅜	No sales	..	..	..	Associated Oil		$44,356,180	$15	25cQ	12-31-32	51	30	31	8¾	16½	6½
17¼	15¼	8,700	16⅛	15¼	15½	Atlantic Refining		$67,416,050	$25	25cQ	12-15-32	51⅜	16⅝	23⅝	8⅝	21⅞	8⅝
4¼	3⅜	7,800	3¾	3⅜	3⅝	Barnsdall Corp. A		$11,293,895	$5	....	5-11-31	34	8⅜	14½	4	7	3⅜
17¾	13¼	58,300	16⅛	13¼	15⅛	Columbia Gas & El.	(sh)	11,684,220	N.P.	25cQ§	2-15-33	87	30⅝	45⅝	11⅝	21	4¼
12	11	100	11	11	..	Colonial Beacon Oil	(sh)	1,444,970	N.P.	....	12-22-22	20⅜	8⅜	10½	7½	12½	9
5⅞	5⅛	14,100	5⅜	5⅛	5⅜	Consolidated Oil Corp.	(sh)	14,218,835	N.P.	....	.....	..	..	..	..	9	4
6¼	5⅜	6,934	5¾	5⅜	5⅜	Continental Oil of Delaware	(sh)	4,738,594	N.P.	....	12-15-27	30½	7¾	12	5	9⅜	3⅝
19⅜	16⅝	7,600	18¾	17⅜	18⅛	General American Tank Car	(sh)	751,638	N.P.	25cQ	10- 1-32	111⅞	53⅛	73⅛	28	35¾	9½
7⅞	6⅝	1,500	7	6⅝	..	General Asphalt	(sh)	413,333	N.P.	....	6-15-32	71½	22⅜	47	9⅝	15½	4¾
15¾	12¼	1,500	13⅜	12¼	12½	Houston Oil		$24,968,600	$100	....	10-17-30	116⅞	29¼	68½	15¾	28¼	8¾
2	1½	100	1½	1½	1½	Indian Refining		$12,564,070	$10	....	10- 1-30	17	2	4⅝	1⅛	2¾	1
¾	⅝	No sales	..	..	..	Louisiana Oil Refining	(sh)	1,309,069	N.P.	....	.....	12	3½	4½	1	2¼	½
⅝	½	100	½	½	..	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	10⅜	1⅜	3¾	½	1½	⅜
4⅞	4⅜	1,200	4¾	4½	..	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	32	11	16¾	5	8⅞	3¾
6¼	5½	200	6	6	..	National Supply of Delaware	(sh)	390,879	$50	....	5-15-31	124¾	60	70¼	5	13	3½
7¼	5⅞	8,500	6½	5⅞	5⅞	Ohio Oil	(sh)	6,648,052	N.P.	10cQ	12-15-32	32	16	19½	5⅛	11	5
12½	12	No sales	..	..	..	Pan American P. & T.	(sh)	1,000,000	$5	20cQ	12-15-32	46½	42	35⅛	20	14	6
12⅝	12	200	12	12	..	Pan American P. & T. "B"	(sh)	2,474,288	$5	20cQ	12-15-32	67¼	30	36½	18	14½	7¼
⅝	½	200	½	½	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	12¾	1¾	4¼	⅝	1¼	¼
6	4¾	500	5¾	5⅜	5⅜	Phillips Petroleum	(sh)	4,156,908	N.P.	....	1- 2-31	44⅝	11½	16⅝	4	8⅛	2
⅜	¼	600	⅜	¼	..	Pierce Oil Corp.		$29,622,831	$25	....	.....	2½	½	1½	¼	¾	¼
⅞	⅝	4,800	⅝	⅝	..	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7⅛	1⅛	3⅜	½	1⅝	½
9½	8	2,800	8⅝	8	7½	Plymouth Oil Co.	(sh)	1,050,000	$5	75cA	.....	..	..	..	..	12½	8½
..	..	No sales	..	..	..	Prairie Oil & Gas		$61,035,800	$25	....	3-31-31	54	11¼	20⅜	4⅛	9½	3½
8	7¼	100	7½	7½	7⅝	Prairie Pipe Line		$101,250,000	$25	....	6-30-31	60	16⅝	26½	5⅞	12¼	5½
⅝	¼	100	⅜	⅜	⅝	Producers & Refiners		$37,438,950	$50	....	9-15-23	11⅞	1	6	1	1⅝	⅛
5	3	20	3½	3	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	40	11½	16	3	9¾	1
3⅞	3⅛	1,700	3¼	3⅛	3⅛	Pure Oil		$75,959,250	$25	....	9- 1-30	27¼	7⅝	11⅞	3¼	6½	2⅛
½	⅜	300	½	⅜	..	Richfield Oil (new)		$52,410,875	N.P.	....	.....	9⅜	4⅛	6⅝	⅜	1⅜	¼
21⅝	19½	2,700	20⅛	19½	20	Royal Dutch N. Y.	(sh)	611,303	....	80½c†	8- 5-32	56½	36⅞	42⅝	13	23¾	12⅛
20¼	15	4,600	17¾	15	16	Seaboard Oil of Delaware	(sh)	1,244,383	$4	10cQ	9-15-32	37	9¾	20¾	5½	20⅜	6⅝
18	15¼	No sales	..	..	..	Shell Transport & Trading Co.		£23,985,000	£1	53c†	7-22-32	48⅜	26	34	5	16⅜	8
5⅝	4¼	4,100	4¾	4¼	4⅞	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	25½	5¼	10¼	2½	8¾	2½
44½	35	700	39	35	36	Shell Union Oil pfd.	(sh)	400,000	$100	....	7- 1-31	106¼	55	78	15	65¼	18
6¼	5¼	400	5½	5¼	..	Simms Petroleum	(sh)	600,000	$20	25cQ	1-16-32	37	5⅝	11	3½	7½	3¼
3⅝	3⅛	300	3¼	3¼	3½	Skelly Oil		$27,441,250	$25	....	12-15-30	12	10⅛	12⅞	2	5¾	2½
25½	23½	2,600	24½	23½	24	Skelly Oil pfd.	(sh)	119,800	$100	....	5- 1-31	99¾	42	62	10	33½	12
7⅞	6½	44,855	6⅞	6½	6¾	Socony-Vacuum		$793,613,588	$25	10cQ	12-15-32	106⅜	98	106	87⅛	12¼	5¼
101	99⅝	1,200	100⅞	100	100¼	Standard Oil Export pfd.	(sh)	764,885	$100	$2.50S.A.	6-30-32	..	..	21	8⅜	100½	81
26	23	33,207	24½	23	24⅛	Standard Oil of California	(sh)	13,102,900	N.P.	50cQ	12-15-32	75	42½	51¾	23⅛	31⅞	15⅛
17⅝	15	2,900	17¼	16¾	17	Standard Oil of Kansas		$8,000,000	$25	....	3-16-31	49	14⅜	19	7¾	16½	7
31⅜	24¾	116,800	30	24¾	25¾	Standard Oil of New Jersey		$637,961,700	$25	25cQ	12-15-32	84⅞	32½	52½	26	37⅜	19⅞
37	36	300	36	36	..	Sun Oil	(sh)	1,416,869	N.P.	25cQ	3-15-33	70	39	45¼	26¾	39⅞	24¾
1½	¾	13,400	1½	¾	1⅜	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	9⅜	¾	1⅜	¼	2	¼
14⅛	12⅜	10,430	13⅜	12⅜	12¾	The Texas Corporation		$246,204,900	$25	25cQ	1- 1-33	60½	28¼	36¼	9⅞	18¼	9¼
1⅞	1½	5,900	1¾	1½	1⅝	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	14½	4	6½	1⅞	4	1½
..	..	No sales	..	..	..	Tide Water Oil	(sh)	2,191,823	N.P.	25cQ	12-31-32	31	13	18	9⅞	10	5
49	45	100	45	45	..	Tide Water Oil pfd.	(sh)	199,446	N.P.	$1.25Q	2-15-33	94⅞	71	83	30	62	30
3½	3⅛	13,000	3⅜	3¼	3¼	Tide Water Associated	(sh)	5,560,424	N.P.	....	2-16-31	17⅜	5⅞	9	2⅛	5⅝	2
44⅛	41½	100	44	44	..	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	1- 1-33	89¾	55	68	20½	60	20
11⅝	9¾	400	10½	10⅛	10	Union Oil of California		$109,651,750	$25	25cQ	11-10-32	50	10⅛	26⅝	11	15⅜	8
12⅛	11½	200	11½	11½	12	Union Tank Car	(sh)	1,254,048	N.P.	35cQ	12- 1-32	38½	23	25⅛	16	19¼	11¾
1½	1⅛	900	1⅛	1⅛	..	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	27	4¼	7⅜	⅞	2¼	½
3	2⅝	2,100	3	2¾	2¾	Wilcox Oil & Gas	(sh)	428,967	$5	...	5-10-28	21	6½	9⅜	2¾	8¾	2¾

*Ex-dividend. †Interim dividend for 1931. ‡Plus extra dividend of 25 cents. §Payable in 5% convertible preferred stock. A—Paid this year; no regular rate.
In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

Oklahoma-Kansas and Eastern Monthly Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for December

Runs

Company—	Month (bbls.)	Dy av. (bbls.)
Gulf Pipe Line Co.	1,215,586	39,212
Texas Pipe Line Co.	575,329	18,559
Empire P. L. Co.	1,546,444	49,885
Magnolia P. L. Co.	926,990	29,903
Cosden P. L. Co.	585,437	18,856
Stanolind P. L. Co.	2,483,100	80,100
Oklahoma P. L. Co.	1,852,312	59,784
Other lines	5,228,770	168,670
Total December	14,414,968	464,999
Total November	14,182,686	477,915
Difference	232,282	12,916

Shipments

Gulf Pipe Line Co.	1,525,152	49,199
Texas Pipe Line Co.	682,439	22,046
Empire Pipe Line Co.	1,770,121	57,101
Magnolia P. L. Co.	962,125	31,036
Cosden P. L. Co.	624,873	20,157
Stanolind P. L. Co.	3,349,333	108,043
Oklahoma P. L. Co.	1,709,737	55,153
Other lines	5,642,000	182,000
Total December	16,266,755	524,735
Total November	16,482,630	549,422
Difference	215,875	4,687

Stocks

Sinclair Prairie Oil & Gas Co.*...	33,372,000
Gulf P. L. and Gypsy Oil Co.	6,291,266
The Texas Company	2,584,026
Empire Pipe Line Co.	4,387,146
Mid-Continent Petroleum Corp.	2,236,287
Stanolind Crude Oil Pur. Co.*...	14,737,000
Magnolia Petroleum Co.	7,515,564
Oklahoma Pipe Line Co.	1,302,587
Carter Oil Co.	3,202,433
Other lines	16,819,796
Total December	92,248,115
Total November	93,098,415
Difference	850,300

*Estimated. Stanolind Pipe Line Co. shipments include Texas crude oil.

EASTERN PIPE LINE REPORT FOR MONTH OF DECEMBER

Runs

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for November and December:

	Nov.,'32	Dec.,'32
Nat. Transit	186,697.73	184,243.57
S. W. Pa. P. L.	56,303.64	59,133.56
Eureka P. L.	227,719.77	234,047.52
Buckeye P. L. (Macksburg)	221,232.82	226,354.81
Buckeye P. L. (Cleveland)	9,299.53	9,844.88
Buckeye P. L. (Lima, etc.)	60,705.25	68,182.23
Indiana P. L.	1,368.26	1,481.00
Stoll Oil Ref.	30,299.73	24,349.76
Bradford Transit	381,443.13	386,033.77
Ashland Ref.	122,303.64	116,035.81
N. Y. Transit	33,248.55	31,542.65
Tide Water P. L.	23,735.36	20,844.56
Pure Oil	463,657.33	417,450.47
Total	1,818,064.74	1,779,444.64
Daily average	60,602.16	57,401.44

PETROLEUM DELIVERIES

The following tables exhibit the shipments or regular deliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December:

	Nov.,'32	Dec.,'32
Nat. Transit	502,396.97	564,143.80
S. W. Pa. P. L.	444,753.50	432,433.83
Eureka P. L.	249,230.42	176,061.90
Buckeye P. L. (Macksburg)	246,783.16	233,296.40
Buckeye P. L. (Cleveland)	1,463.62	1,708.70
Buckeye P. L. (Lima, etc.)	1,409,429.45	1,283,479.91
Indiana P. L.	957,560.92	1,044,961.84
Bradford Transit	471,869.30	395,061.80
Southern P. L.	39,328.54	45,636.81
Tuscarora	160,075.90	272,595.24
N. Y. Transit	190,178.82	181,237.45
Northern P. L.	125,955.13	187,906.61
Tide Water P. L.	381,447.02	406,183.32
Pure Oil	503,320.53	544,478.14
Total	5,683,803.22	5,770,185.75
Daily average	189,626.77	186,135.02

GROSS STOCKS

The gross stocks held by various pipe lines in the oil-producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of November and December:

	Nov.,'32	Dec.,'32
Nat. Transit	653,197.76	576,760.70
S. W. Pa. P. L.	285,254.12	305,313.08
Eureka P. L.	893,267.43	1,010,432.31
Buckeye P. L. (Macksburg)	288,885.92	281,126.12
Buckeye P. L. (Cleveland)	33,101.01	62,884.73
Buckeye P. L. (Lima, etc.)	2,492,210.50	2,553,050.19
Indiana P. L.	495,619.45	507,273.67
Bradford Transit	281,278.89	298,545.33
Southern P. L.	231,099.17	187,747.67
Tuscarora	8,832.80	9,428.35
N. Y. Transit	100,309.38	93,921.48
Northern P. L.	220,986.55	211,546.14
Tide Water P. L.	553,704.04	545,246.63
Pure Oil	568,451.98	495,593.73
Total	7,116,200.05	7,139,420.18
Decrease	305,420.19	
Increase		23,220.13

GRADES OF OIL

The following table shows the amount of the different grades of oil held by the Eastern pipe lines at the close of November and December showing gross stocks of the above fields:

	Nov.,'32	Dec.,'32
Pennsylvania	2,752,920.73	2,667,394.45
Lima	425,365.89	428,904.25
Illinois	2,999.77	2,134.17
Mid-Continent	3,432,437.70	3,639,358.06
Michigan	502,475.96	411,629.15
Total	7,116,200.05	7,139,420.18

DAILY AVERAGE RUNS

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1929	1930	1931	1932
Jan.	51,749	75,907	53,939	53,501
Feb.	51,833	79,256	55,163	55,498
Mar.	54,253	76,688	54,331	57,199
Apr.	58,444	84,536	54,914	57,348
May	59,902	70,546	53,344	59,105
June	58,853	75,430	54,119	54,371
July	66,087	68,921	50,723	53,402
Aug.	64,037	54,291	51,503	57,676
Sept.	67,315	56,595	61,345	55,423
Oct.	76,033	58,179	65,595	55,960
Nov.	74,831	52,332	59,819	60,602
Dec.	74,561	53,999	61,235	57,401

DAILY AVERAGE SHIPMENTS

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1929	1930	1931	1932
Jan.	165,721	217,623	175,369	186,551
Feb.	159,387	224,355	183,494	169,356
Mar.	161,474	228,846	189,508	188,793
Apr.	169,737	241,845	191,450	202,036
May	184,281	248,333	199,247	201,404
June	185,404	234,401	221,155	201,632
July	194,763	207,094	211,632	202,859
Aug.	194,946	205,506	224,166	187,839
Sept.	201,214	193,999	217,537	170,524
Oct.	191,367	157,675	210,831	188,504
Nov.	202,743	146,438	196,425	189,426
Dec.	186,257	143,001	176,241	186,135

GROSS STOCKS

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1930	1931	1932
Jan.	12,220,045	11,831,092	9,023,914
Feb.	12,991,561	11,506,489	8,974,350
Mar.	13,247,217	11,012,162	8,802,192
Apr.	13,233,961	11,044,481	8,908,661
May	13,062,953	10,728,239	8,835,725
June	13,296,855	9,903,349	8,732,724
July	13,268,563	9,569,849	8,176,956
Aug.	13,047,051	9,192,457	8,128,576
Sept.	12,812,018	8,492,431	7,895,421
Oct.	12,437,553	8,417,694	7,421,620
Nov.	11,851,380	8,330,386	7,116,200
Dec.	11,751,952	9,119,033	7,139,420

THE ILLINOIS FIELD

The following table give the report of the Illinois Pipe Line Co. in Illinois:

	Bbls.
Gross stocks, Dec. 31	504,212.52
Runs from wells	315,228.01
Other receipts	80,151.26
Regular deliveries	295,924.35
Other deliveries	89,402.11

The amount of Illinois oil run by the Tide Water Pipe Co. in December was 20,844.56 bbls. Deliveries were 21,825.28 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1932—	Runs	Deliveries
December	336,072.57	317,749.63
1931—		
January	468,429.04	469,573.19
February	429,284.54	461,262.88
March	424,638.23	356,663.28
April	421,814.98	282,532.65
May	423,231.80	322,513.96
June	510,805.78	320,258.12
July	528,009.33	289,219.05
August	476,623.56	393,231.06
September	492,183.83	323,012.50
October	498,124.13	325,834.91
November	470,302.63	281,258.45
December	515,771.28	306,623.19
1932—		
January	500,177.12	246,634.19
February	482,561.50	186,010.30
March	565,538.70	270,617.75
April	461,920.92	285,817.98
May	521,884.64	279,859.88
June	501,878.26	263,703.70
July	466,635.89	284,537.18
August	476,095.53	307,325.33
September	436,529.00	329,894.39
October	332,680.67	352,620.34
November	346,380.27	338,351.23

Tide Water Pipe Co., Ltd., also delivered in December 95,061.16 bbls. Oklahoma oil.

Average Daily Imports of Crude and Refined Oil at Principal United States Ports

Average barrels per day in 1932—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
January	19,161	8,161	104,065	24,194	34,903	190,484	4,871	7,226	2,096	1,484	15,677	206,161
February	32,483	16,517	128,483	28,862	34,552	240,897	2,034	5,207	4,310	1,379	12,930	253,827
March	35,806	10,516	167,806	38,677	48,129	299,935	5,936	39,774	.....	1,516	47,226	338,161
April	37,167	18,467	158,233	35,733	39,400	292,000	6,767	44,600	2,167	3,333	54,867	346,867
May	31,161	2,065	170,226	50,774	14,935	269,161	903	719	4,194	1,516	7,323	276,484
June	10,900	11,700	199,300	23,733	29,900	294,533	.....	.....	12,867	.....	12,867	307,400
July	2,613	2,161	62,968	14,935	2,129	84,806	.....	.....	.....	.....	.....	84,806
August	3,323	3,161	72,678	25,613	2,098	105,871	.....	.....	.....	.....	.....	105,871
September	5,100	2,200	57,900	12,167	10,066	87,433	.....	.....	.....	.....	.....	87,433
October	14,033	.....	73,193	30,645	7,139	124,900	.....	.....	.....	.....	2,000	126,900
November	14,167	.....	49,967	19,233	8,900	92,267	.....	.....	.....	.....	2,133	94,400
December	14,258	2,065	84,323	28,162	9,256	138,064	.....	.....	.....	.....	5,226	143,290

Average Daily Receipts of California Crude and Refined Oil at Atlantic and Gulf Ports

Average barrels per day in 1932—	ATLANTIC PORTS: Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS: Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
January	3,871	1,710	14,483	3,774	5,710	29,548	.....	.....	.....	.....	.....	29,548
February	2,069	.....	9,103	4,863	.....	17,034	.....	.....	.....	.....	2,483	19,517
March	1,516	.....	6,065	.....	.....	7,581	.....	.....	.....	.....	.....	7,581
April	3,500	.....	19,333	3,867	4,833	31,533	.....	.....	.....	.....	.....	31,533
May	2,161	.....	15,226	18,774	3,871	40,032	.....	.....	.....	.....	.....	40,032
June	2,500	.....	17,333	3,933	833	24,600	.....	.....	.....	.....	.....	24,600
July	2,323	.....	22,226	8,677	8,935	42,161	.....	.....	.....	.....	.....	42,161
August	4,452	.....	22,484	7,548	7,677	42,161	.....	.....	.....	.....	.....	42,161
September	2,900	.....	5,000	11,633	7,967	27,500	.....	.....	.....	.....	.....	27,500
October	2,387	1,226	14,452	9,355	9,193	36,613	.....	.....	.....	.....	.....	36,613
November	4,667	.....	21,700	7,767	2,366	36,500	.....	.....	.....	.....	.....	36,500
December	4,129	.....	15,678	5,322	8,226	33,355	.....	.....	.....	.....	4,903	38,258

Gross Production of Crude Oil in the United States for 12 Months

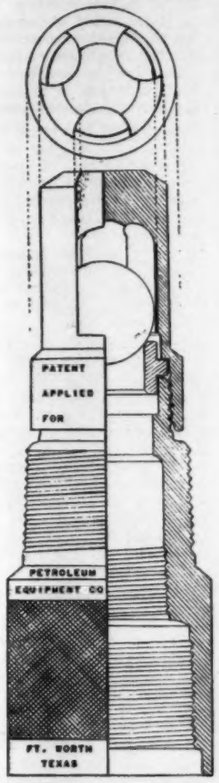
(In barrels of 42 gallons)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
January:	Month	15,532,141	13,664,149	26,409,838	3,170,587	1,101,616	1,792,398	2,444,164	3,649,000	67,763,893
	Daily average	501,037	440,779	851,930	102,277	35,536	57,819	78,844	117,709	2,185,927
February:	Month	14,616,862	11,806,190	23,858,375	2,838,839	1,008,563	1,617,087	2,430,224	3,374,000	61,540,140
	Daily average	504,030	407,110	822,703	97,891	34,778	55,762	83,456	116,345	2,122,074
March:	Month	15,578,915	12,998,796	26,162,647	3,042,929	1,063,897	1,703,144	2,617,392	3,643,000	66,806,720
	Daily average	502,449	419,316	843,956	98,159	34,287	54,942	84,433	117,516	2,155,055
April:	Month	15,524,444	12,718,020	26,362,851	2,974,080	1,048,620	1,858,957	2,525,040	3,766,000	66,778,012
	Daily average	517,481	423,934	878,762	99,136	34,954	61,965	84,168	125,533	2,225,934
May:	Month	15,575,741	13,169,420	27,328,472	3,038,920	1,064,602	2,012,701	2,600,683	3,891,000	68,681,540
	Daily average	502,443	424,820	881,564	98,030	34,342	64,926	83,893	125,516	2,216,554
June:	Month	14,113,970	12,757,230	26,161,093	2,837,179	1,022,970	1,857,423	2,416,680	3,677,000	64,748,554
	Daily average	470,632	425,241	872,036	94,573	34,099	61,914	80,556	119,233	2,158,285
July:	Month	14,627,550	13,030,571	26,946,714	2,906,808	1,060,386	1,933,757	2,554,648	3,723,000	66,783,424
	Daily average	471,856	420,341	869,248	93,768	34,206	62,379	82,408	120,097	2,154,304
August:	Month	14,839,951	12,743,666	26,924,953	3,046,959	1,062,897	1,870,764	2,413,536	3,873,000	66,775,726
	Daily average	478,708	411,086	868,547	98,289	34,287	60,347	77,856	124,935	2,154,056
September:	Month	14,351,140	11,705,280	27,366,515	2,970,750	1,019,250	1,929,161	2,289,300	3,618,000	65,249,396
	Daily average	478,371	390,176	912,217	99,024	33,975	64,305	76,310	120,599	2,174,980
October:	Month	14,627,663	11,915,811	27,213,833	2,892,486	1,019,931	1,963,063	2,254,444	3,814,000	65,701,230
	Daily average	471,860	384,381	877,866	93,306	32,901	63,325	72,724	123,032	2,119,394
November:	Month	14,142,389	11,340,930	26,155,452	2,841,780	1,020,600	1,962,943	2,169,685	3,578,000	63,211,979
	Daily average	471,412	378,031	871,855	94,726	34,020	65,431	72,323	119,267	2,107,066
December:	Month	14,595,928	11,637,171	23,487,618	2,777,879	1,037,539	1,966,481	2,067,855	3,694,000	61,263,770
	Daily average	470,807	375,393	757,672	89,609	33,469	63,435	66,705	119,161	1,976,251
Total 12 months		178,127,794	149,487,234	314,378,759	35,725,206	12,529,870	22,467,889	28,773,651	44,200,000	785,304,403
Daily average		486,633	409,425	858,958	97,605	34,235	61,387	78,617	120,765	2,145,640

NEW AND IMPROVED EQUIPMENT

Marketing Petro Junior Oversize Standing Valve

The Petroleum Equipment Co., Fort Worth, Tex., has placed on the market the Petro Junior oversize standing valve as a device for operators whose wells do not justify, under present conditions,



investment in the company's Petro oversize valve.

The Petro Junior, which in no way replaces the Petro Oversize valve, is small and compact, and is adaptable to either common barrels or plunger pumps. The valve is manufactured from cold-rolled solid-bar stock and carefully machined. The crown is made from chrome nickel steel electrically heat treated for hardness and strength, and is especially resistant to corrosion and abrasion.

The valve is manufactured in 2-inch and 2½-inch tubing sizes. The 2-inch valve is equipped with a standard 2¼-inch Nu Alloy ball and seat and the 2½-inch valve is equipped with a standard 2⅜-inch Nu Alloy ball and seat.

BOTTOMLESS SCRAPER OFFERED

The LaPlant-Choate (Knapp) bottomless scraper, announced by the LaPlant-Choate Manufacturing Co., Cedar Rapids, Iowa, is referred to as a combined scraper, grader and bank sloper. The construction of the bowl on this scraper permits it to be used as a hauling unit for moving earth from 300 to 400 feet, for spreading earth that has been dumped on fills, for grading in close quarters, for leveling, for grading, sloping and smoothing banks and for other uses. The design of the scraper causes the earth to be rolled along so that only a minimum amount of power is required to pull it. The curvature of the back of the bowl lifts and rolls the earth at the same time, thus allowing large loads to be hauled, even in the hardest materials.

Notes About Trade Literature

An eight-page supplement to its mechanical goods catalog on the "Highflex transmission belt" has been issued by the B. F. Goodrich Rubber Co., Akron, Ohio.

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The current number of the Gardner-Denver News, published by the Gardner-Denver Co., Quincy, Ill., contains among other interesting material an article on the importance of clean air for air compressors.

—

"Piping Tailored to Fit" is the title of a 30-page booklet being distributed by the Air Reduction Sales Co., 60 East Forty-second Street, New York. It reviews the advantages of oxyacetylene welding in the piping field and discusses the economies achieved when piping is fabricated by this method.

—

The Byron Jackson Co., Los Angeles, Calif., has prepared a bulletin describing the Hydropress car washer, which, according to the manufacturer ushers in a "new deal in car washing."

—

The Northern Pump Co., Minneapolis, Minn., has issued a bulletin descriptive of a new line of hydraulic pumps of the rotary radial piston type.

—

A bulletin on Vogt fusion welding may be obtained from the Henry Vogt Machine Co., Louisville, Ky. It is a supplement to the company's W-1 Homoweld catalog and illustrates various Homoweld products for oil refineries, chemical plants and power plants.

Two new pieces of literature sent out by the Caterpillar Tractor Co., Peoria, Ill., are a condensed catalog on road machinery and a bulletin on the company's new auto patrol No. 11.

—

The International Nickel Co., New York, has available for those who ask for it a bulletin on "Engineering Properties of Monel Metal," prepared by the company's development and research department.

—

Two booklets offered by the General Electric Co., are "Electric Heating Units and Devices" and "Steam Turbines for Mechanical Drive." It also has ready a bulletin on low-speed alternating-current generators.

—

The Cleveland Tractor Co., Cleveland, Ohio, has for mailing to applicants two bulletins on its new Model 80 Cletrac tractor, adaptable to many uses in the oil field.

—

Roots-Connersville-Wilbraham, Connersville, Ind., is sending out loose-leaf bulletins on R-C-W blowers, R-C-W vacuum-blowing cleaner units and Victor-Acme type XA gas pumps for handling gases and vapors.

—

A circular distributed by the Mine Safety Appliances Co., Pittsburgh, Pa., gives interesting facts concerning decreased loss of life resulting from the use of skullguards.

International Truck and R. F. Winch in One Unit

The International Harvester Co.'s Tulsa office has received a second order from the Mid-Kansas Oil & Gas Co. for one of its Model A-8, 5-7½-ton trucks equipped with a heavy-duty R.F. well pulling winch manufactured by the Franks Manufacturing Co. of Tulsa. This combination unit is the largest of its type built for oil field use, although the truck-winch combinations may be had in many smaller sizes.

The truck motor has an actual rating of 132 horsepower with a torque of 415 foot pounds, and is of the type being used on the Iraq pipe line and in the construction of the Hoover Dam in Arizona. On the latter project 38 of them are used.

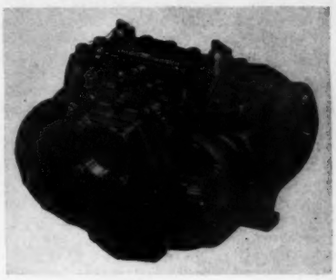
The truck has a speed of 50 miles per hour and a wide range of speeds in the transmission, making it particularly well adapted for use with the R.F. winch. The winch is so geared to the motor in the truck through a special patented bevel gear-box as to permit of a range of line pulls from 2,000 pounds with a single line at high-high speed to 78,000 pounds with three lines at low-low speed.

The winch is controlled from a platform built on the side of the truck bed and is so mounted that there is left a bed of almost standard truck dimensions for general haulage purposes. Provision is also made for anchorage by means of a telescoping horizontal boom at the end of which is mounted a block for guiding the line into the derrick.

The combined unit is flexible in operation and is an all-purpose outfit used in the fields for cleaning wells, pulling rods and tubing and general work. The upkeep is low and the saving in cleanout work is reported to be important.

Unusually Light Friction Loss Marks Brodie Meter

A new meter, Model X-300, developed by the Ralph N. Brodie Co., Sixty-first and Lowell Streets, Oakland, Calif., has an exceptionally low friction loss, according to the manufacturer. It maintains high speed under gravity pressure, re-



quiring less power to operate on pump installations, the power being supplied by the gravity flow of the liquid.

This new meter will start and operate on as low as a 1-inch head. It is equipped with a 3-inch inlet and outlet, has a capacity of 300 g.p.m. and will withstand a working pressure of 125 pounds.

It is asserted that the meter will operate satisfactorily either under gravity or under pump pressure and that it is particularly adapted for use at the loading rack, on lines from tank cars or barges to storage tanks, in refineries and on pipe or gathering lines.

Goodrich Announces New Hose for Gasoline Uses

Perfection of a new type hose for tank wagon, tank car and bulk plant service is announced by the B. F. Goodrich Rubber Co., Akron, Ohio. Known as wire filler tank hose, it is available in 1½-inch, 2-inch, 2½-inch and 3-inch sizes with the same outside diameters as the older type construction, which makes it interchangeable through use of standard type couplings.

Similar to regular metal lined jacketed construction except that in the jacket a special wire is used as filler member alternating with the regular cotton filler strands, service tests on this new hose are said to have shown marked prolongation of life.

Tank wagon and tank car service is regarded as the most severe usage gasoline hose is called upon to meet because of rough handling, abrasion and exposure to weather. Wire filler in the jacket of the new hose is said to prevent expansion of the jacket and assures a constant uniform compression of the rubber between the jacket and metal lining, adding greatly to life of the hose.

NEW FOSTER WHEELER CATALOG

The new general catalog of the Foster Wheeler Corp., 165 Broadway, New York, is made up in loose leaf form, containing sections on each of the major products manufactured by the company. It includes bulletins on refinery equipment, marine equipment, steam generators, water walls, superheaters, economizers, air heaters, water sealed ash dischargers, condensers, centrifugal pumps, steam jet air pumps, heaters and evaporators, expansion joints, cooling towers and vacuum refrigeration. The company has under preparation bulletins on pulverized fuel feeders and burners, industrial and process heaters, heat exchangers and pulverizers. These will be available soon.

Development and Trend in Ferrous Alloys Used With High Temperatures, Principles Reviewed

By F. N. SPELLER*

The trend of development of useful products is finally determined by results in service so this paper might well have been assigned to a metallurgist, representing the consuming interests. Both producer and consumer, however, have essential contributions to make in determining the economical solution of the problem. So many factors are involved in the selection of the most suitable metal for high-temperature service that it is desirable to be somewhat specific; therefore, the subject of this paper will be treated with particular reference to tubular products suitable for temperatures above 400° F.

Before discussing the "trend in ferrous alloys for high-temperature service," it may be well to review the principles upon which alloys resistant to high temperatures and corrosion have been developed and the effect of elevated temperatures on the structure and properties of ferrous metals; also to consider briefly other factors that influence this trend.

Principles of Corrosion Protection

The process by which metals are made resistant to corrosion in solutions or in gases at high temperatures is now generally recognized as one in which a protective film is formed by reaction between the metal and its environment, usually by oxidation. The film that separates the metal from its environment may be built up mainly of corrosion products from the metal; or by reaction between the metal and some essential material in the environment, such as chromium salts; or by both of these influences. The protective property of films (for example, the so-called "passivifying" effect) varies mainly with the nature and concentration of attacking elements and the temperature. All films appear to be more or less porous to certain elements. However, some elements, such as chlorine, penetrate oxide films much more readily than others, such as sulphur, and its compounds.

The character and density of the film depends, apparently, upon the concentration and properties of film-building material available, whether it be originally in the metal or in the surrounding environment. For instance, 50 p.p.m. sodium chromate are sufficient to maintain indefinitely the bright surface of iron when immersed in distilled water at normal temperature. With 500 p.p.m. of sodium chloride in solution, this amount of chromate will not be nearly so protective. We have found, however, that by increasing the concentration of sodium chromate in solution, satisfactory protection can be obtained against the penetrating chlorine ions. For example, at a chloride concentration of 30,000 p.p.m., a chromate concentration of 2,500 p.p.m. is required to maintain a fairly protective skin on the metal. So also with metal alloys, the environment determines the degree and cost of protection required.

The metals that may be alloyed with iron to aid in building up these self-protective films at reasonable cost are relatively few and include principally chromium, nickel, silicon, molybdenum and aluminum. Of these, chromium is by far the most important under most conditions, although chromium and chromium-nickel steels are not resistant in some environments, such as hydrochloric acid; hence, we are forced to the conclusion that there is, in all probability, no one metal that can be economically used to resist oxidation and other forms of corrosion under all conditions, especially at elevated temperatures. The influence of chromium alone is illustrated under several different conditions in Figures 1 and 2.

*Director, Department Metallurgy and Research, National Tube Co., Pittsburgh, Pa. Prepared for Houston meeting of the American Petroleum Institute.

Economic Value Important

Evidently then the problem is to find the metal best suited for each type of corrosion at the lowest cost. The character and resistance of the surface film must be such as to exclude most of the ions that bombard the metal surface, and the properties of the film must be varied accordingly to meet different conditions of attack. Furthermore, it is important that they form a film rapidly, so that when damaged the break will be repaired before much waste of metal takes place. The rate of corrosion of chromium steels is about the same as that of ordinary plain carbon steels for the first few moments of exposure, but decreases rapidly in a short time, as illustrated in Figure 3.

So far no metal of reasonable cost has been found that protects itself from concentrated chlorides at high temperatures.

The presence of a film has been definitely proved in many cases by separating the film from the metal and mounting it so that it becomes more visible and can be examined under the microscope, and also by changes in metal potential as the film forms.

It has been shown that passivity is due to film protection and that an invisible oxide film forms on ordinary iron at normal temperature. The highly protective films that form on stainless iron or aluminum are much thinner than those formed on ordinary iron under the same conditions. There is reason to think that some of these films are of molecular thickness.

Very little is known as to the bond between the film and the metal. However, when removed, the film sometimes contains particles of metal indicating an interlocking bond. Application of X-ray and electron-diffraction methods have failed to indicate a difference between active and passive iron. Hence, it has been pointed out that, so far, this evidence rather suggests that the protective oxide film is amorphous, although it must be admitted that, at present, nothing is definitely known as to the structure of these thin films or the bond that they have with the metal.[1] The answer to these questions may be of considerable practical importance in the protection of metals.

Physical Properties Considered

In developing corrosion-resistant metals, it is, of course, important in most cases to consider the physical properties of the metal as well as its chemical resistance, so we shall now discuss briefly the effect of elevated temperatures on the structure and physical properties of some alloy steels commonly used.

[1]Protective Films on Metals; E. S. Hedges (D. Van Nostrand Co., London), 1932.

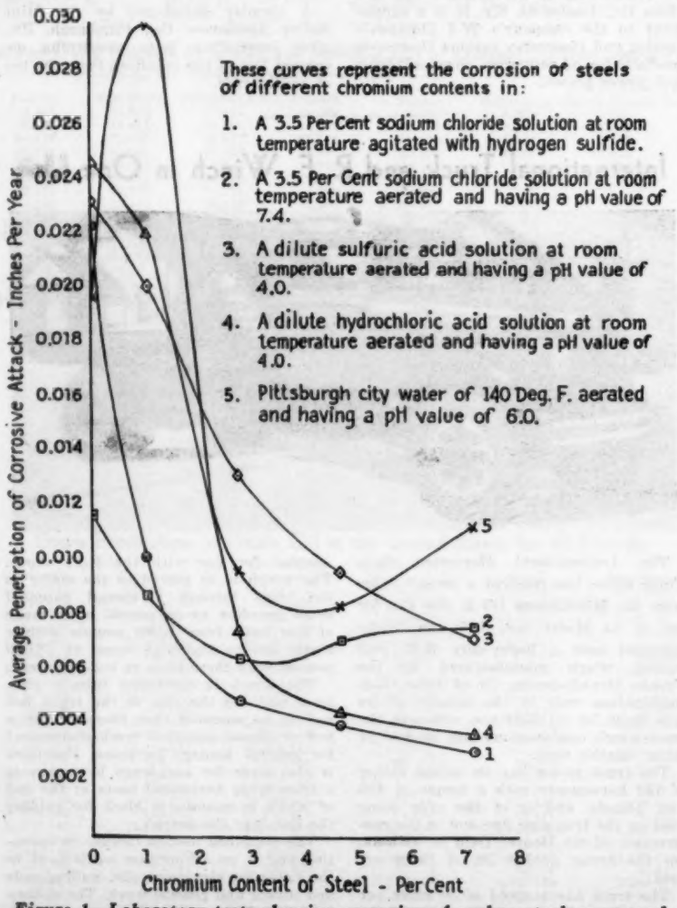

These curves represent the corrosion of steels of different chromium contents in:
1. A 3.5 Per Cent sodium chloride solution at room temperature agitated with hydrogen sulfide.
2. A 3.5 Per Cent sodium chloride solution at room temperature aerated and having a pH value of 7.4.
3. A dilute sulfuric acid solution at room temperature aerated and having a pH value of 4.0.
4. A dilute hydrochloric acid solution at room temperature aerated and having a pH value of 4.0.
5. Pittsburgh city water of 140 Deg. F. aerated and having a pH value of 6.0.
Average Penetration of Corrosive Attack - Inches Per Year
0.030
0.028
0.026
0.024
0.022
0.020
0.018
0.016
0.014
0.012
0.010
0.008
0.006
0.004
0.002
0 1 2 3 4 5 6 7 8
Chromium Content of Steel - Per Cent

Figure 1—Laboratory tests showing corrosion of carbon steels compared with steels of varying chromium content

Elevated Temperatures

More progress has been made in the development of metals resistant to corrosion than in the study of properties of metals after prolonged exposure to high temperatures. In fact, some corrosion resistance might well be sacrificed in the higher chromium alloys, if necessary, to secure more desirable physical properties.

The selection of the best metal for high temperatures as well as other service is usually a compromise with due consideration to minimum physical properties under service environment, fabrication, corrosion resistance, resistance to abrasion, and relative cost.

It is important that the designing engineer recognize the fundamental limitations of metals at high temperatures with respect to the effect of heat on their physical properties.

All metals are made up of crystalline grains. At low temperatures failure usually occurs through the grains, while at high temperatures failure usually occurs around the grain boundaries. Near the lower critical temperature of recrystallization, failure is likely to occur equally across the grains or at the grain boundaries. This is termed the equicohesive temperature. In a recent paper by E. C. Wright[2] available information on the influence of temperature on physical properties of ferrous metals and its determination is given in detail and does not need to be repeated here. From this source the following section has been prepared by Mr. Wright:

"The permanency of the physical properties and the stability of structure of metals used in equipment at ordinary temperatures can be relied upon completely, and tests made upon the materials employed yield accurate data for sound design. Since metals at elevated temperatures change in properties not only in proportion to the temperature of service but also to the time of exposure, a knowledge of the extent of these transformations becomes of great importance in determining the proper materials to use. Tests made at room temperatures on metals which are to be employed at high temperatures have become of decreasing significance. There is only meager information on this subject, probably on account of the very long-time intervals involved, but evidence is accumulating from the examination of many specimens which have been in actual service for long periods in apparatus operating at high temperatures.

Heat Effect

"Ordinary structural steels of the .10/.20 carbon and .30/.40 carbon type have been found to exhibit changes in physical properties and structure after long heating periods. It is well known that if a .10/.20 carbon steel is annealed from a temperature above 1,650° F. the structure will consist of ferrite grains with pearlitic grains composed of lamellar plates of ferrite and iron carbides. This is usually termed the normalized structure. If the same steel is heated to temperatures in the neighborhood of 1,300° F. for various periods of time, the lamellar structure of the pearlitic grains is changed and the carbide plates coalesced into a globular state, this transformation being called spheroidization. In the sphe-

[2]"Selection of Ferrous Metals Used in Refineries Has Developed to Paramount Importance," The Oil and Gas Journal, p. 57, October 6, 1932, by E. C. Wright, Metallurgist, Ellwood City Works, National Tube Co.

roidized state, the strength of the steel is from 2 to 10 per cent less than the strength in the normalized condition. Examination of numerous specimens of such steel after service in boilers and cracking stills has shown that heating of the steel to temperatures between 900 and 1,300° F. causes a gradual spheroidization of the structure in proportion to the time of exposures, the temperature of heating and the carbon content of the material. It has also been found that if the metal is stressed during the period of heating, the rate of transformation of the pearlite is further accelerated. Investigations of ordinary steels by Bailey[2] has shown that the physical properties of the metal are gradually reduced as spheroidization proceeds, and that continued heating of steel to temperatures as low as 800° F. will promote this change in structure. Creep tests made by some investigators on normalized and spheroidized carbon steel also show that the creep strength is reduced by the spheroidized structure. The higher the carbon content of the material the more the reduction in properties due to the spheroidization.

Heat-Treated Steels

"Effects similar to those described above have also been noted in heat-treated steels, and for this reason the use of steel sections which have previously been quenched and tempered has not been common in high-temperature service. Two effects have been noted in the reheating of heat-treated steels to temperatures below the final draw temperature. In the case of several steels, the phenomenon which has been described as temper brittleness has been frequently observed. This has been particularly noted in heat-treated bolts used at elevated temperatures. Long exposure to heat often reduces the impact to 10 to 15 foot-pounds, although the original bolt, heat-treated, might show 50 to 70 foot-pounds. This is especially true with nickel-chromium and nickel-chromium-molybdenum steels. The other effect is that of the gradual softening and reduction in strength of the heat-treated section due to extended heating. For example, if a steel were quenched above the critical range and drawn back at 1,100° F., the installation of such steel in apparatus operating at 900° F. would cause a further softening of the material, even though the service temperature were considerably below the tempering temperature imposed in treatment. The temperature process is well known to be a function of both time and temperature, and the same softening can be obtained after several hours at 900° F. as can be produced in a shorter time at 1,000° F.

[2]"Testing of Materials for Service in High-Temperature Steam Plant," preprint, February, 1932, Institute of Mechanical Engineers, London, England."

"Other instances of metal transformation in service are those exhibited in .10/.20 carbon boiler plate steel and also in the various chromium alloys, such as 4 to 6 per cent chromium, 12 per cent chromium and 17 per cent chromium. It has been repeatedly demonstrated that some ordinary steels when operating in the blue heat range under different conditions of stress develop a specific brittleness which is usually called age hardening. The nature of this condition has been widely investigated, and low carbon steels are now produced, as a result of intensive study of deoxidation, which do not show this condition. In the case of the higher chromium steels, these do not develop brittleness at elevated temperatures, but after exposure to high temperatures slow cooling has, in many cases, produced marked brittleness after the metal section became cold. The nature of this phenomenon has not been thoroughly investigated or determined.

"All of the alloys of the austenitic type which show particularly high strengths at elevated temperatures are also susceptible to structural transformation which alters the properties of the metal. This refers to most types of austenite which have been studied, either in the high-nickel steels, the high-nickel-chromium steels, or the high-manganese steels. It has been found that austenite in these alloys does not represent a condition of stable equilibrium and, consequently, reheating of such materials to high temperatures for extended periods enables the unstable structure to partially adjust itself. In practically every case the result has been a precipitation of the carbides held in solid solution in a saturated concentration in austenite. The migration of these carbides to austenite grain bounderies on long exposures to heat results in reduction of ductility and toughness of the metal, and also in decreased resistance to corrosion under certain conditions.

"The obvious way to avoid such changes in metal properties is to select metals which will not develop undesirable properties, or, if this cannot be done, to so treat the metal before installation that the structure will be stable and in equilibrium with the operating conditions. Moreover, the design of the structure should be based upon the properties of the metals at operating conditions and not upon tests made under other conditions. For example, creep tests on ordinary steels should not be performed on normalized specimens, but should be made on specimens in the spheroidized condition as representative of the ultimate structure of the metal after it has been in service for a considerable period. In the case of plain chromium alloys, when these are used at high temperatures, the metal should not be allowed to cool through the embrittling range, but, if used, should be maintained at temperatures above this point in order to prevent failures from brittleness. The austenitic steels should be so processed in heat treating or altered in chemical composition as to prevent injurious grain boundary defects. Progress in metallurgy indicates that most of these objectionable features will be surmounted as additional information is obtained regarding the transformation of the various metals.

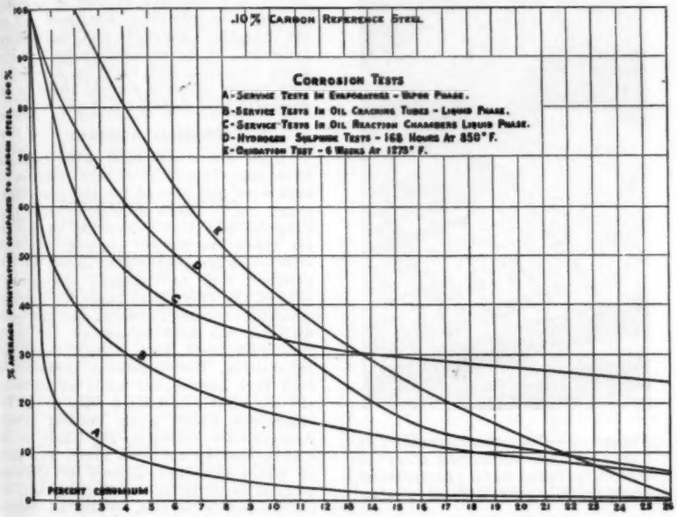

.10% Carbon Reference Steel
Corrosion Tests
A-Service Tests in Evaporators - Vapor Phase.
B-Service Tests in Oil Cracking Tubes - Liquid Phase.
C-Service Tests in Oil Reaction Chambers Liquid Phase.
D-Hydrogen Sulphide Tests - 168 Hours at 850° F.
E-Oxidation Test - 6 Weeks at 1275° F.
% Average Penetration Compared to Carbon Steel 100%
Percent Corrosion

Figure 2—Corrosion resistance of chromium alloy steels compared with regular carbon steel. Summary of tests in operating units in ten refineries on fifteen different alloys. Curves D and E are laboratory tests

Creep Testing

"During the past 10 years the subject of creep testing has been under most active investigation as a means of determining the resistance of metals to flow under certain stresses at certain temperatures. Unfortunately, a number of investigators have attempted to determine the flow characteristics of metals by a number of short-cut methods, and as a result the literature on this subject is cluttered with a mass of data which cannot be in any way correlated. The use of such expressions as 'limited viscosity,' 'proportional limit,' 'time yield,' 'stress limit for no creep,' 'stress corresponding to 1 per cent elongation in 10,000 hours,' and many others as a means of reporting creep properties of different materials has greatly clouded the issue, since all of these definitions are different. Aside from different testing procedure on creep, the situation is also complicated by the fact that those laboratories using identical equipment and methods of testing have conducted their tests on specimens under different conditions of heat treatment, and in very few cases has any cognizance been taken of the change in properties and structure of the metal undergoing test. In the United States the short-cut creep testing method has not found much favor. Engineers in this country have preferred to discuss creep strengths only when such tests were carried on for at least 5,000 hours.

"Contributions offered by many engineers have demonstrated that creep testing is a highly involved procedure and that much of the testing which has been carried out has yielded results of questionable value. Such essentials in test procedure as accuracy of temperature measurement on the specimen, accuracy and the method of applying the load, the previous heat treatment of the test piece, the method of measuring elongation, the consistency of the temperature control throughout the test, and others are important. Inaccurate measurements of any of these may change the final result as much as 30 to 40 per cent. Engineers who have studied this situation probably will recall cases where the conflicting creep strength data for any given steel reported by one investigator were twice that reported by another for the same temperature. There are several objections to the short-cut creep tests: In the first place, the rate of straining is very great for the first few hours of the tests, during which the characteristics of the metal adjust themselves in such a way that the stress imposed may be uniformly dispersed across the section. The extension of this initial creep will vary, therefore, with the metal itself, its grain structure, and the rate of applying the load. This is particularly true of tests made near the equicohesive temperature of the metal where recrystallization of strained crystals at the testing temperature may occur. Short-time creep tests attempt to extrapolate the creep strength for long periods of time by observing the rate of strain after the initial strain has been observed. Repeated observations of extended creep tests, however, have shown that the rate of straining in any given test piece is not necessarily consistent, and, in many cases, the slope of the creep stress curve changes over a period of several thousand hours. The most serious objection to short-time creep testing procedure is that concerning measurement of elongation itself. A creep rate of 1 per cent in 100,000 hours represents an extension of only 10^{-5} inches per inch per hour, and the accurate measurement of such minute extensions is highly questionable. In creep tests extending for 20 hours, the measurement for one hour may be slightly low and for another period slightly high, which would give an irregular rate of creep for these different periods. Where creep tests are extended for the expected life of the equipment, whether that be 20,000 or 100,000 hours, the measurement of the strain over long periods makes possible much greater accuracy in results and also eliminates the errors obtained from extrapolation. Nevertheless, approximate creep tests made over short periods of several hundred hours afford useful indications in selecting and developing steels for high-temperature service.

Standard of Testing

"This brief discussion of the high-temperature properties of the metal is intended to give some indication of the complication of this problem, and indicates that some standard of testing and investigating metals at high temperatures should be considered."

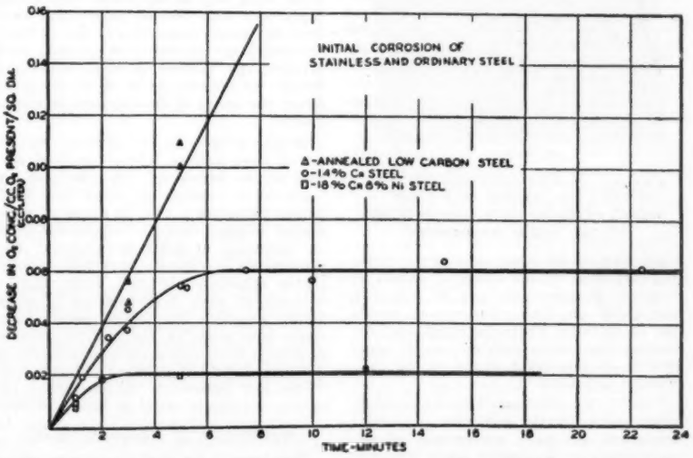

Initial Corrosion of Stainless and Ordinary Steel
Δ-Annealed Low Carbon Steel
O-14% Cr Steel
□-18% Cr 8% Ni Steel
Decrease in O2 Conc./cc. Present/30 Dil.
Time-Minutes

Figure 3—Rate of corrosion compared with time. Plain carbon, 14% chromium, and 18/8 chromium-nickel. (Forrest, Roetheli and Brown)

It will be seen that creep testing of the precision necessary for design purposes involves essentially (1) uniform representative samples that will be structurally stable throughout the test period; (2) accurate loading, with stresses similar to those in service; (3) close control of temperature in the gauge length of specimen; (4) precise measurement of temperature and strain, and (5) to indicate trend, creep tests should be continued for at least one or two years or approach the expected life of the material.

So far, much of the creep data have been rather a test of testing methods. As little was known a few years ago regarding the essential factors, the results of these preliminary creep tests are naturally variable. Nevertheless, the data obtained afford a useful indication of the trend if not accurate enough as a basis for design of high temperature equipment. Out of the many alloys tested during this period, a few have been developed

commercially that promise to become standard.

The time seems near when more refined creep testing can be standardized, at least on a tentative basis. More reliable design data may then be expected and these, in turn, should aid in pointing out the true economic trend in metals for high-temperature service.

Statement by H. J. French

The Joint Research Committee of the American Society of Mechanical Engineers and the American Society for Testing Materials on The Effect of Temperature Upon the Properties of Metal has done much to center attention on this problem. H. J. French, chairman of this committee, has kindly prepared the following statement of the present status of this work in a recent private communication to the writer:

"Considerable work has been done in co-operating laboratories during the past

Figure 4—Photomicrograph (at 500x) of the regular 18/8 alloy in which carbides have precipitated at the grain boundaries

eight years in an effort to secure a better understanding of the creep of metals at elevated temperatures and to establish test codes for high temperature tensile and creep tests. Tentative codes are now nearing completion and will mark progress in an important phase of the committee's activities.

"About two years ago a fund was established to enable the initiation of special researches, not as a replacement of the co-operative work already under way, but rather to take care of some fundamental problems, involving prolonged effort and special equipment, which could not well be carried out in the accustomed manner.

"To date allocations have been made to the University of Illinois (Prof. H. F. Moore) and to the Battelle Memorial Institute (Dr. H. W. Gillett) to cover work relating to the high temperature, fatigue, and creep properties of ordinary carbon boiler steels or of the austenitic nickel-chromium (stainless) steels.

"At ordinary atmospheric temperatures the limiting stresses for design purposes are the repeatedly appliel stresses (resistance to fatigue). While only a limited amount of data are available, there is evidence to indicate that the limiting stresses for ordinary carbon steels at 1,000° F. are not the repeatedly applied stresses but the ability of the metal to sustain fixed loads (resistance to creep). Further information is needed to confirm these views and better to define in the case of the austenitic nickel-chromium steels the temperature ranges within which the repeatedly applied stresses and the ability to sustain fixed loads become the limiting stresses for design purposes.

"The procurement of information of this sort is one of the important objects of these investigations and has considerable practical importance because of the widespread applications of austenitic nickel-chromium steels. It is also of scientific interest because most prior comparisons have been made on the pearlitic steels, and the proposed tests should help to establish whether or not comparable relations exist in the austenitic steels. Supplemental work relating to the stability at high temperatures of the austenitic chromium-nickel steels is also being carried on as part of this research program."

This work is of much practical interest to refinery engineers and manufacturers of metals for high temperature and we believe it would be facilitated by more active participation on the part of both of these interests. A critical survey of the variations and variables in creep testing, resulting from the co-operative work of the joint committee is expected to be ready for publication in the near future.

Cracking Still Tubes

Some of the manufacturers of cracking still tubes have discussed tentative plans for carrying out more extensive creep testing on a co-operative basis. It seemed to them both desirable and essential that the methods of preparation of samples and testing procedure be standardized in detail before much more of this expensive testing is undertaken. It is therefore suggested that the refinery division of the American Petroleum Institute officially delegate representatives to work with manufacturers and the joint committee of the American Society of Mechanical Engineers and the American Society for Testing Materials to further such standardization.[4] It would also seem desirable for the American Petroleum Institute refinery corrosion committee to supervise more actively service tests under typical plant conditions so that reliable data will be available from actual experience with ferrous alloys that have been developed commercially for refinery service. More co-operation of this kind between the various interests concerned would, we believe, do much to favorably direct the trend of development of useful alloys.

Research work on the physical chemistry of steel making, which has been carried on in Pittsburgh for the past six years by a number of allied steel companies furnishes a good example of what can be accomplished by co-operative work on problems of common interest.[5] Improvements in practice have been considerably stimulated by this work, and as a result of such improvements it seems highly probable that some special alloy steels now made by the electric furnace process will be produced satisfactorily in the open hearth furnace at reduced cost. These are important considerations affecting the future trend in ferrous alloys.

Stabilization of Austenitic Steels

The demand for steel for service above 900° F. has made necessary a more extensive study of the changes that occur in steels at elevated temperatures, as referred to above.

The 18-8 type of ferrous alloys has relatively high creep value combined with unusual resistance to certain kinds of corrosive attack and, therefore, fulfills the commercial requirements of certain high temperature service better than any other metal now available. It is, therefore, important in connection with the application of this useful alloy that it be as stable as possible in service. It is true that cracking tubes made of 18-8 steel with the standard treatment have been used up to 1,200° F. for two or three years without developing intergranular attack, although the metal is subject to some intergranular changes in this range that make it more susceptible to attack at the grain boundaries. It should be remembered, however, in considering this subject that this alloy is very resistant to many corrosive agencies, and that the severity of attack at the grain boundaries will be determined by the corrosive elements present, the period of exposure, and the temperature, as well as by the changes in the metal at the grain boundaries. It is fortunate that as the temperature rises above 1,300° F. chromium carbides precipitated at lower temperatures are reabsorbed, thus tending to provide increased resistance to the greater corrosive attack at higher temperatures.

[4]During the meetings of the American Petroleum Institute at Houston where this paper was read the committee on standardization of refinery equipment appointed representatives to act with the manufacturers and the joint committee referred to above to standardise methods and procedure in creep testing and to work up standard specifications for still tubes.

[5]"A Review of the Pittsburgh Studies Into Steel Manufacture," editorial, Metal Progress, December, 1932, p. 35.

Statement by R. H. Aborn

The following statement in regard to the changes that occur in 18-8 within the approximate range of 900° to 1,400° F. and an account of two promising solu-

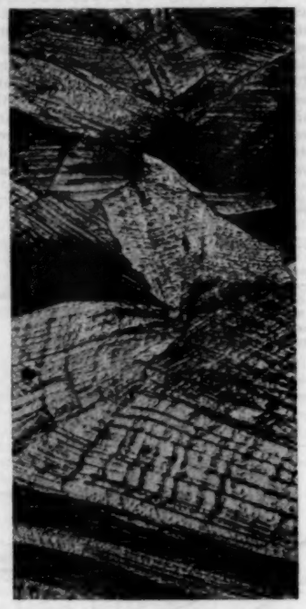


Figure 5—Photomicrograph (at (500x) of the improved alloy in which carbides have precipitated substantially throughout grains

tions of this problem have been prepared by R. H. Aborn of the United States Steel Corp. Research Laboratory. It is expected that a paper describing further developments on this problem will be issued by this laboratory within a few months.

"It is now well known that intercrystalline corrosion may occur in austenitic chromium steels as the result of exposure of the metal to elevated temperatures. Susceptibility to this type of attack is believed to be induced somewhat as follows: Within the temperature range indicated, chromium-carbide, or a chromium-rich carbide, precipitates at the grain boundaries of the metal; the carbide particles probably contain as much as 90 per cent chromium. Their formation locally depletes the immediately adjacent metal of its chromium, so that along the grain boundaries it is too lean in this important element to resist attack unless the period of heating has been short enough, as in good welding practice with low carbon alloys, to insure that no appreciable precipitation has occurred. If depletion does occur, prolonged heating at a sufficiently high temperature is required for diffusion of chromium in sufficient amount from the reservoirs within the grains to restore corrosion resistance to the grain boundary regions.

"When such metal locally depleted in chromium is subjected to a severe corroding agent, attack proceeds along the grain boundaries, resulting in disintegration of the metal structure, although the grains themselves remain substantially unaffected. The severity of the effect is approximately proportional to the carbon content, owing to the fact that the phenomenon is a consequence of the localized precipitation of carbide from supersaturated solid solution. Alloys with carbon content under .07 per cent are comparatively free from this behavior, except perhaps after extremely long exposures. Reduction of the carbon content to the solubility limit (approximately .02 per cent at temperatures below 1,300° F.) would eliminate the effect altogether, but this course is impractical at the present time. Fortunately, however, two distinct methods for the elimination of this troublesome phenomenon are available to regulate commercial practice.

"In the first place, any method which ties up carbon in an inactive form should be effective. To achieve this clearly calls for appropriate addition to one or more elements which form extremely stable carbides. Of these elements, titanium has been found to be the most successful; it forms a highly stable carbide, leaving unimpaired the chromium distribution throughout the austenitic solid solution, and in contrast with many of the stable carbide-forming elements (such as tungsten, molybdenum, and vanadium, as well as silicon—a direct stabilizer of ferrite) its effective use does not involve the production of ferrite in appreciable quantity. This ability of titanium to stabilize the alloy without at the same time producing ferrite is noteworthy in that it provides a means of retaining unaltered all of the valuable physical and mechanical properties of the original austenitic 18-8 alloy. Titanium also provides a satisfactory means of grain control through appropriate heat treatment of the alloy.

Titanium Additions

"Such alloys stabilized with titanium have been investigated very thoroughly both here and abroad for the past three years, and it has been demonstrated that titanium additions amounting to five or six times the carbon content are very effective when properly utilized. We understand that in Germany the greater part of the 18-8 alloys made for extreme conditions contain titanium, and that such material has been in service for more than two years with a high degree of satisfaction. The experience accumulated both here and abroad leads us to favor the use of this stabilized alloy in all installations where media causing severe intergranular corrosion are likely to be encountered by the 18-8 alloy, any part of which has been exposed to elevated temperatures, as in welding, or will be so exposed in service. While no important installations of this stabilized 18-8 alloy have been made in American oil refineries, some trial applications are under observation and experience with this special alloy in other industries has been in accord with the behavior expected.

"Certain titanium-bearing stainless steels have, it is reported, not come up to expectations; but this, if true, is not surprising in view of the precautions which must be taken by the manufacturer to produce material whose performance will be satisfactory. One does not obtain a truly stabilized alloy merely by throwing a 'pinch' of titanium into an 18-8 heat. A ratio of titanium to carbon which is less than the optimum is not necessarily effective. Moreover, as titanium does not remove carbon from the alloy, the presence of carbides may be expected, after exposure to intermediate temperatures, to an extent substantially as great as in a regular 18-8 of the same carbon content. The mere presence of carbides, however, is not inherently detrimental; they appear to be harmless provided that they exist substantially as dispersed titanium carbides and not as localized chromium carbides. Therefore, a tube made of this alloy can hardly be expected to be entirely satisfactory in service unless it has previously been heat-treated by a modified procedure which has been found definitely to link the carbon with titanium. A tube, suitably processed to obtain this maximum utilization of the special element, will, we believe, be permanently stable from the outset.

"A second method, developed in the United States Steel Corp., for reducing

susceptibility to intergranular corrosion permits the formation of some chromium-carbide, but in a harmless mode of distribution. By an appropriate combination of mechanical and thermal treatment carbide may be induced to precipitate substantially throughout the grains, as well as, or perhaps instead of, along the grain boundaries. Figures 4 and 5 contrast the mode of distribution of carbides in the regular 18-8 alloy with that achieved by this new method. Figure 4, a typical photomicrograph at a magnification of 500X of the structure of the regular 18-8 alloy after prolonged exposure to intermediate temperatures, reveals shadowy grain boundaries loaded with carbides, while the main portion of each grain remains clear. Figure 5 is a similar photomicrograph, but in this instance the structure of the improved alloy after similar exposure reveals a distribution of carbide substantially uniform throughout the grains. The precipitation is so general that there is but little local depletion of chromium and diffusion rapidly restores the chromium content in the depleted areas, as there is always an ample surplus in each grain as a whole This method provides for the practical elimination of susceptibility to intergranular corrosion without recourse to special alloying elements. The metal may suffer a slight loss in ductility by the treatment, but gains correspondingly in strength. In view of the fact that it has recently been observed that metal processed by this method appears to possess a rate of creep distinctly greater than that of the regular annealed 18-8, even at temperatures as low as 1,200° F., it would seem that this method may be capable of providing at the same time both high resistance to intergranular corrosion and the desirable property of visible bulge before failure.

Intergranular Corrosion

"The relative degree of susceptibility to intergranular corrosion developed in three types of 18-8 alloys (each containing .07 per cent carbon) during an exposure period of 1,000 hours to a continuous range of temperatures from 400° F. to 1,600° F. is portrayed in Figure 6. These curves are based on quantitative determinations made possible by the development of a very sensitive method founded on the measurement of the electrical resistance of a specimen before and after very severe corrosion attack in a controlled medium.[8] The main curve shows the temperature region in which the ordinary 18-8 alloy, if maintained there long enough, becomes susceptible to intergranular attack; but it implies nothing as to the actual rate of attack and deterioration under the conditions to which the alloy is exposed in service. This rate of attack, which under many conditions of exposure may in practice be very small, increases with increasing carbon content of the alloy, and depends, of course, upon the presence in the environment of substances corrosive to this type of alloy.

"The electrical resistance method for measuring intergranular corrosion provides such a sensitive means of detecting attack that it has been possible to demonstrate that the lower limit of the temperature range of susceptibility is considerably below the figure previously accepted. It should be understood, however, that the temperature range of susceptibility determined by this test is not necessarily the same as occurs in all types of service at elevated temperatures. Indeed we are inclined to think that the exact temperature range of susceptibility to attack is strongly influenced by the character of the attacking medium. Presumably, there are characteristic temperature ranges for hydrogen sulphide, sulphur dioxide, oxygen, and other corrosive agents present in oil refining. The temperature range of attack indicated on the chart (Figure 6) was determined by a controlled corrosion test in a sulphuric acid-copper sulphate solution after exposure to the temperatures indicated for a period of 1,000 hours. This solution has been found to be very effective in detecting susceptibility to intergranular attack, a condition which must have developed while the metal was at the temperature in question. Such a test demonstrates, we believe, the existence of susceptibility to intergranular corrosion. Whether it becomes manifest in this temperature range or another, depends upon the corrosive environment, but this is a matter requiring further investigation. Our primary concern has been the detection of the existence of this condition and its complete elimination, which has been achieved through two separate methods—by the proper use of titanium, or by imposing on the regular 18-8 alloy an appropriate combination of mechanical and thermal treatment. The remarkable improvement effected by these two methods of stabilization is clearly evident from Figure 6."

The above indicates the line of activities on this important subject. The results give promise amounting to almost certainty that at a very early date the laboratory developments will be fully applied in manufacturing operations.

Other Protective Measures

Other protective measures may be more economical in some cases than the use of alloy steels and therefore exert an important influence on the trend of use of such alloys. For instance:

Refinery engineers have succeeded in materially reducing the wastage due to corrosion by more complete separation of salt water and the use of neutralizers, as described in the very complete A.P.I. report on this subject in 1931.

Reaction chambers and other equipment have been satisfactorily protected by suitable portland cement mixtures, and preliminary experiments indicate that pipe carrying corrosive gases can be economically protected in this way.

Mechanical means for lining pipe with cement have been developed to a point where cement-lined pipe can now be furnished with a lining mixture especially adapted for the service in view.

Another possible economic solution of the problem for some highly corrosive conditions is a more resistant metal lining applied to ordinary carbon steel. As an example, 18-8 steel may now be welded to steel plates, or in the case of tubing, a liner of 18-8 can be drawn into an ordinary carbon steel tube for the protection of the interior surface. The thickness of alloy varies from 10 to 20 per cent of the base metal. The amount of this material used, however, has not been sufficient to determine the degree of its economy in service as compared with regular 18-8 tubing.

The wall thickness of cracking still tubes and other equipment is now designed with sufficient excess thickness to allow for considerable wastage. Anything that will safely permit of a reduction in this wall thickness may result in economy of materials. For instance, more refined methods of calibering the wall or the practice of drilling sentry holes might be helpful.

Trend in Ferrous Alloys

It has been well said that we are now approaching if not living in the "age of alloy steel." Thousands of tons of the stainless and heat-resisting alloy steels are produced annually, and the demand for them is increasing. Notwithstanding the considerable advances which have been made in the manufacture of these steels, with respect to quality and a knowledge of their properties at elevated temperatures, additional data must be developed through individual and co-operative work to complete the picture.

The trend toward use of alloy steels will, generally speaking, be determined by the ultimate cost of protection over a period of years or the expected life of the unit. The main factors which determine or direct this trend are: Original cost of material, durability, reliability, cost of replacement (including loss of production) and incidental damages that may result from failure. The last may be practically eliminated by careful periodic inspection, calipering the metal, and/or by the use of small sentry holes drilled partly through the metal so as to give timely warning of serious reduction in wall thickness.

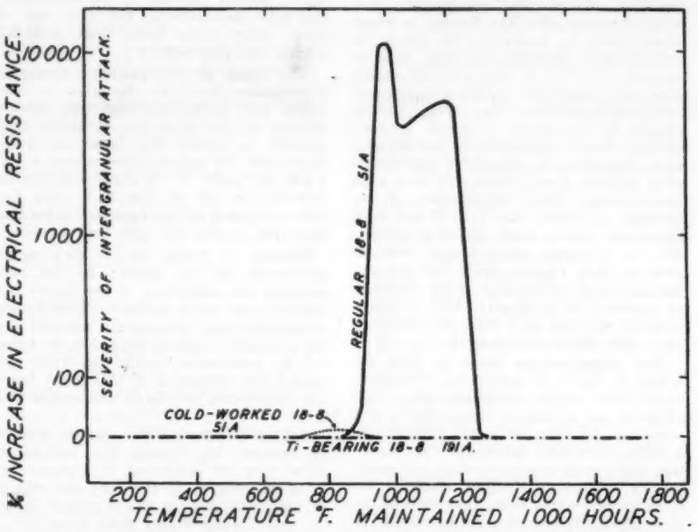


Figure 6—Relative susceptibility to intergranular attack of 18/8 alloy (a) ordinary (b) after cold work and heat treatment (c) containing titanium, after 1000 hours exposure to the temperature indicated followed by a very severe corrosive attack in a controlled acid medium, as measured by an electrical resistance method. The rate of attack in service depends upon the conditions of exposure, and may not be appreciable even when the allow has become susceptible

Commercial ferrous alloys of various chromium and chromium-nickel content, with tungsten, molybdenum, titanium and other useful additions have been developed for use at elevated temperatures under corrosive conditions. The alloys most generally used for such purposes may be divided into a few types according to the chromium contents as listed:

Composition—	Alloy type 5	12	17	27	18-8	25-12
Cr, per cent	4-6	12-14	16-18	25-30	16-20	22-28
Ni, per cent	...	...	.....	.....	8-12	12-16
Mn, per cent (max.)	0 50	0 50	0.50	0.50	0 50	.....
Si, per cent (max.)	0.50	0 50	0 50	0.50	0.50	.....
C, per cent (max.)	.15 or .20	0.10	0.10	0 10	0.15	0.25

These types have several modifications, most of which have not yet been fully established in commercial use.

The protective influence of chromium shows a marked increase at 11.5 per cent. The stainless steel alloys, indicated above as the 12 per cent chromium type, respond readily to air hardening and may, therefore, be obtained with a wide range of physical properties. They resist oxidation quite well up to about 1,500° F. This type, however, is not so suitable for fabrication into seamless pipe as the 17 per cent chromium or 18-8 type referred to later.

The 17 per cent chromium steel resists oxidation continuously at temperatures up to 1,550° F. In the annealed condition it is ductile and malleable, and is suitable for cold working, except for the most severe forming operations, in which case the 18-8 type is preferable. The 17 per cent chromium alloy is available in the form of bars, shapes, strips, sheets, plates, tubes and wire. It is preferable to the 12 per cent chromium alloy for resistance to oxidation and corrosion at high temperatures, but is not suitable for cracking tubes. Furthermore, in some forms this alloy is almost as costly as the 18-8 type, but the 18-8 in many instances is easier and safer to weld.

Chromium Types

The 27 per cent chromium type is used principally for resistances to oxidation at temperatures between 1,500 and 2,100° F., and may be obtained in the form of sheets, plates, rounds, flats, bars and tubing. It is not suitable for cracking tubes.

Both the 17 and 27 per cent chromium types show brittleness at room temperature when cooled slowly from temperatures between 800° and 1,100° F., although they are not brittle at above 500° or 600° F. This characteristic limits their use at elevated temperatures to low pressure work.

The 18-8 chromium-nickel series of stainless steels has a wide application, due to the useful combination of desirable physical properties and wide range of resistance to corrosion work. While the 18-8 metal was not developed primarily for high temperature service, it has come into this field to a considerable extent on account of its high creep value combined with unusual resistance to oxidation and corrosion. The coefficient of expansion of this alloy is about 1½ times that of low carbon steel, whereas the 12 and 17 per cent chromium steels have a coefficient about the same as that of carbon steel. It is very fortunate that such a metal is available combining desirable physical properties with ease of fabrication and good welding quality. The use of this alloy has increased considerably during the past two years, so that the higher initial cost seems in many cases to be justified by experience.

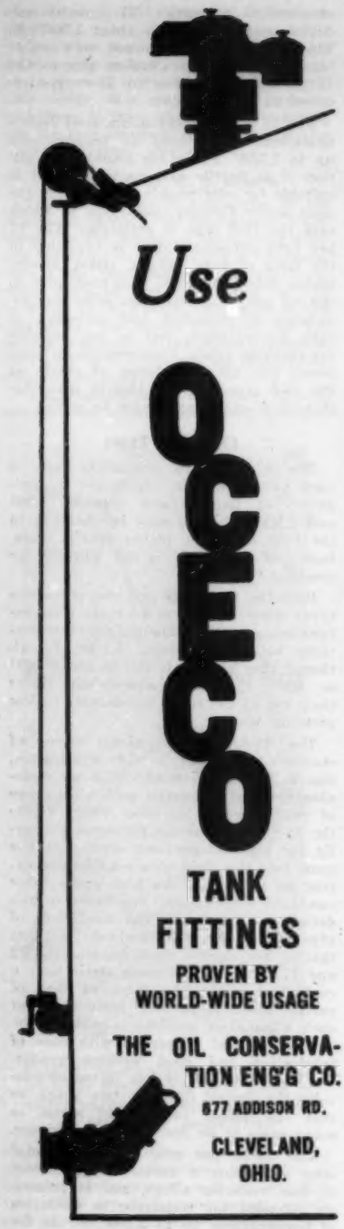
The 25-12 per cent chromium-nickel steel represents a further improvement in heat resisting alloys, and is primarily intended for resistance to oxidation at temperatures up to 2,100° F. At the same time, it retains a large portion of its strength and toughness through this range of temperature. This alloy is obtainable in the form of plates, sheets, rods, flats and bars. Other alloys containing still higher chromium or nickel contents with other elements such as molybdenum and tungsten have been developed for special service but the above include the principal types now commercially used.

Service of Cracking Tubes

For cracking tube service three general types of steel are available: Plain carbon, 5 per cent chromium and the 18-8 chromium-nickel alloy. Variations of each of these with small amounts of tungsten or molybdenum may be obtained for certain specific conditions. Details regarding the physical properties and application in service of the 5 per cent chromium and other high temperature steel alloys will be found in the recent papers, previously referred to, by E. C. Wright and others[7], presented before the Mid-Conti-

[8] J. J. B. Rutherford and Robert H. Aborn, Tr. A.I.M.M.E., Iron and Steel Div., Vol. 100, p. 283, 1932.

[7] See bibliography of recent contributions on this subject at end of this article.



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nent meeting of the A.S.M.E., Tulsa, October 5, 1932.

In the case of cracking tubes, experience indicates that ordinary .10/.20 carbon tubes have been used economically in some cases up to as high as 1,200° F. tube wall temperature where sulphur corrosion is practically absent. For similar tube temperatures, 4 to 6 per cent chromium steels (with or without 0.5 per cent molybdenum or 1 per cent tungsten) have been used where a moderate amount of sulphur corrosion is encountered. The molybdenum or tungsten alloys seem to have a somewhat higher creep value. With highly corrosive oils, 18-8 steel has been used to advantage, especially for the higher temperature parts of such installations as are likely to be in service for a long period. The present trend in high pressure liquid phase cracking, however, is decidedly toward the use of the 4 to 6 per cent type of chromium steels where sufficient corrosion resistance is not obtainable with carbon steel. Developments in the low pressure high temperature pyrolysis of hydrocarbons may require entirely different materials.

The use of 4 to 6 per cent chromium tubing has been gaining at the expense of carbon steels during the past two years, for the good reason that experience shows that this alloy generally lasts 4 to 10 times as long as carbon steel in cracking tube installations handling high sulphur crude oils. The former is about three times as costly as the latter. A considerable increase in the relative amount of 4 to 6 per cent chromium steel purchased for cracking equipment has developed this year. This radical change by consumers is based on four or five years' experience in service and may, therefore, be considered significant of a definite trend, expressive of a wise conservatism and compromise. When properly annealed, the 4 to 6 per cent chromium alloys have physical properties at ordinary temperatures comparable to plain carbon steels and yet are stronger and sufficiently more resistant to corrosion at moderately high temperatures to warrant, as a rule, the increased cost over plain carbon steel.

The improvements made in 18-8 referred to above in discussing "Stabilization," have tended to better adapt this alloy to use at higher temperatures and pressures. In some cases the regular 18-8 tubes have been taken out for inspection and reheat treatment after two years' service without exhibiting material intergranular corrosion or other kind of deterioration. When the requirements of the refinery industry for material for temperatures above 1,000° F. at high pressures have been more definitely established, these metals may be modified to meet the conditions anticipated.

Codification of Practice

The work of the Refinery Corrosion Committee, we understand, will lead to a codification of practice with reference to corrosion losses. The data being collected by this committee when compiled in convenient form for reference should be of great value in classifying refinery corrosion and as an aid in selecting typical locations for corrosion testing. Further work on standardization of corrosion testing procedure might also be sponsored by this committee both for small scale and plant tests.

The standardization of equipment will also help to direct the trend of development of all material along economic lines both as to quality and costs.

A great variety of specifications have been written by consumers for cracking still tubes and other refinery equipment. Manufacturers of still tubes have recently considered all these and now offer revised basic specifications for tubes of the plain carbon and 5 per cent chromium type. Variations from these specifications, either in composition or testing of the material, can be made, of course, but at increased cost. The more general use of such standards should be beneficial to all concerned, and we trust that the American Petroleum Institute refinery division will soon adopt similar standard specifications for these materials as they have already done for other products.

Summary

With reference to the important metallurgical factors affecting trend in choice of metals for high temperature service, it is recognized that more reliable data are required by the designing engineer as to the effect of elevated temperatures on the physical properties and structure of these metals. More rapid progress in this work may be expected by closer cooperation between consumers and producers especially in the work of standardizing procedure in creep testing, and in carrying out durability tests under representative conditions in service. Standardization of specifications for alloy steels by joint action of the consumers and producers is also highly desirable. The present apparent trend is decidedly towards the wider use of alloy steels, especially of the 5 per cent chromium type, when dealing with corrosive crude oil. Carbon steel, however, is still most generally used. Tungsten (1 per cent) or molybdenum (0.5 per cent) added to either of the above gives a moderate increase in resistance to creep, but the actual value of these additions has not yet been definitely determined in general practice.

The regular 18-8 chromium-nickel alloy is reported to have justified the higher initial expense in certain cracking tube installations, but very few of these alloy tubes have been installed during the past year.

The cause of intergranular corrosion occasionally found in this alloy is now fairly well understood and two modifications of the 18-8 are available that promise to render this important alloy acceptable for temperature service up to 1,300 or 1,400° F. A very considerable increase in use of the 18-8 alloy for other purposes at lower temperatures has developed during the past year or two.

Finally, to return to the first point mentioned in this paper: In the last analysis the experience of consumers determines the trend of development by selecting the most economical material for the purpose. It would, therefore, be helpful to manufacturers in particular to have a full discussion of this paper from the standpoint of large consuming interests.

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Gulf Coast Fields

(Continued from Page 52)

wood & Sharp, flowing 55 bbls. per hour, three-eighths inch choke, 5,291 feet.

At Humble

Sun Oil Co. got a dry gas well in its No. 70 River, a shallow sand test at Humble, being completed at 1,238 feet. Rio Bravo Oil Co.'s No. 92 Jordit, Saratoga, made 5 bbls. net oil daily at 1,150 feet after plugging back from 1,661 feet.

Markham

E. M. Hamill and associates' No. 3 Meyers, northeast side of Markham, Matagorda County, made a drill stem test of sand at 3,220-28 feet, showing dry gas. It will be drilled deeper.

Liberty-Polk

Toner & Purdy are coring deeper in their No. 1 Roberts in the DeRumayor Survey, located on the Ace Dome prospect on the Liberty-Polk County line. The test, which topped the Cockfield at 5,020 feet and cored to 5,025 feet and showed some oil, has been shut down for several weeks waiting on fuel. Because of the swampy condition of that country it has been difficult for operators to keep in fuel. The bottom at latest report was down 5,045 feet and should pick up the "Conroe pay" within another 100 or 150 feet.

Eastern Tyler County

Republic Production Co. and Houston Oil Co. have abandoned their No. 1 Kirby-McShane, second test drilled by these companies at Spurger, eastern Tyler County, in water sand at 5,347 feet. Location of this test is in the B.B.B.&C. Survey No. 17, north of the first test. No. 1 Sterne fee, which recently was completed as a gas well. One other test is drilling and derricks are up for two others.

Colorado County

In the Eagle Lake district of southern Colorado County, Fabrigus & Poole have made location and rigged up for a wildcat, No. 1 Lake Side Irrigation Co., 1,500 feet southeast and 500 feet northeast of the Patrick Reel Survey. This district is located along the "trend" westward from Conroe and is in an area which has been looked upon with favor.

Matagorda County

E. C. Combs has rigged up for a wildcat, No. 1 Wadsworth, located in the S. R. Fisher Upper Survey, southern Matagorda County. This is in an area where considerable geophysical work was done several years ago. At Buckeye, same county, United North & South Development Co.'s No. 1 St.L.&B.M., second test for this area, which was opened for production last autumn by the same company's No. 1 Stoddard, completed as a 2,500-bbl. well at 7,926 feet, late in the week was coring shale below 7,750 feet. The discovery, the deepest producer on the coast, at present is being worked over, as a result of water having broken into it.